


**STATE OF UTAH**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 3

AMENDED REPORT ☐

<b>APPLICATION FOR PERMIT TO DRILL</b>				<b>1. WELL NAME and NUMBER</b> NBU 687-30E		
<b>2. TYPE OF WORK</b> DRILL NEW WELL <input checked="" type="checkbox"/> REENTER P&A WELL <input type="checkbox"/> DEEPEN WELL <input type="checkbox"/>				<b>3. FIELD OR WILDCAT</b> NATURAL BUTTES		
<b>4. TYPE OF WELL</b> Gas Well Coalbed Methane Well: NO				<b>5. UNIT or COMMUNITIZATION AGREEMENT NAME</b> NATURAL BUTTES		
<b>6. NAME OF OPERATOR</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.				<b>7. OPERATOR PHONE</b> 307-752-1169		
<b>8. ADDRESS OF OPERATOR</b> P.O. Box 173779, Denver, CO, 80217				<b>9. OPERATOR E-MAIL</b> Laura.Gianakos@anadarko.com		
<b>10. MINERAL LEASE NUMBER (FEDERAL, INDIAN, OR STATE)</b> ML22793		<b>11. MINERAL OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		<b>12. SURFACE OWNERSHIP</b> FEDERAL <input type="checkbox"/> INDIAN <input type="checkbox"/> STATE <input checked="" type="checkbox"/> FEE <input type="checkbox"/>		
<b>13. NAME OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>14. SURFACE OWNER PHONE (if box 12 = 'fee')</b>		
<b>15. ADDRESS OF SURFACE OWNER (if box 12 = 'fee')</b>				<b>16. SURFACE OWNER E-MAIL (if box 12 = 'fee')</b>		
<b>17. INDIAN ALLOTTEE OR TRIBE NAME (if box 12 = 'INDIAN')</b>		<b>18. INTEND TO COMMINGLE PRODUCTION FROM MULTIPLE FORMATIONS</b> YES <input type="checkbox"/> (Submit Commingling Application) NO <input checked="" type="checkbox"/>		<b>19. SLANT</b> VERTICAL <input checked="" type="checkbox"/> DIRECTIONAL <input type="checkbox"/> HORIZONTAL <input type="checkbox"/>		
<b>20. LOCATION OF WELL</b>	<b>FOOTAGES</b>	<b>QTR-QTR</b>	<b>SECTION</b>	<b>TOWNSHIP</b>	<b>RANGE</b>	<b>MERIDIAN</b>
<b>LOCATION AT SURFACE</b>	1921 FNL 1967 FWL	SEnw	30	10.0 S	21.0 E	S
<b>Top of Uppermost Producing Zone</b>	1921 FNL 1967 FWL	SEnw	30	10.0 S	21.0 E	S
<b>At Total Depth</b>	1921 FNL 1967 FWL	SEnw	30	10.0 S	21.0 E	S
<b>21. COUNTY</b> UINTAH		<b>22. DISTANCE TO NEAREST LEASE LINE (Feet)</b> 1921		<b>23. NUMBER OF ACRES IN DRILLING UNIT</b> 644		
		<b>25. DISTANCE TO NEAREST WELL IN SAME POOL (Applied For Drilling or Completed)</b> 1560		<b>26. PROPOSED DEPTH</b> MD: 7252 TVD: 7252		
<b>27. ELEVATION - GROUND LEVEL</b> 5265		<b>28. BOND NUMBER</b> 6196017		<b>29. SOURCE OF DRILLING WATER / WATER RIGHTS APPROVAL NUMBER IF APPLICABLE</b> 49-225		

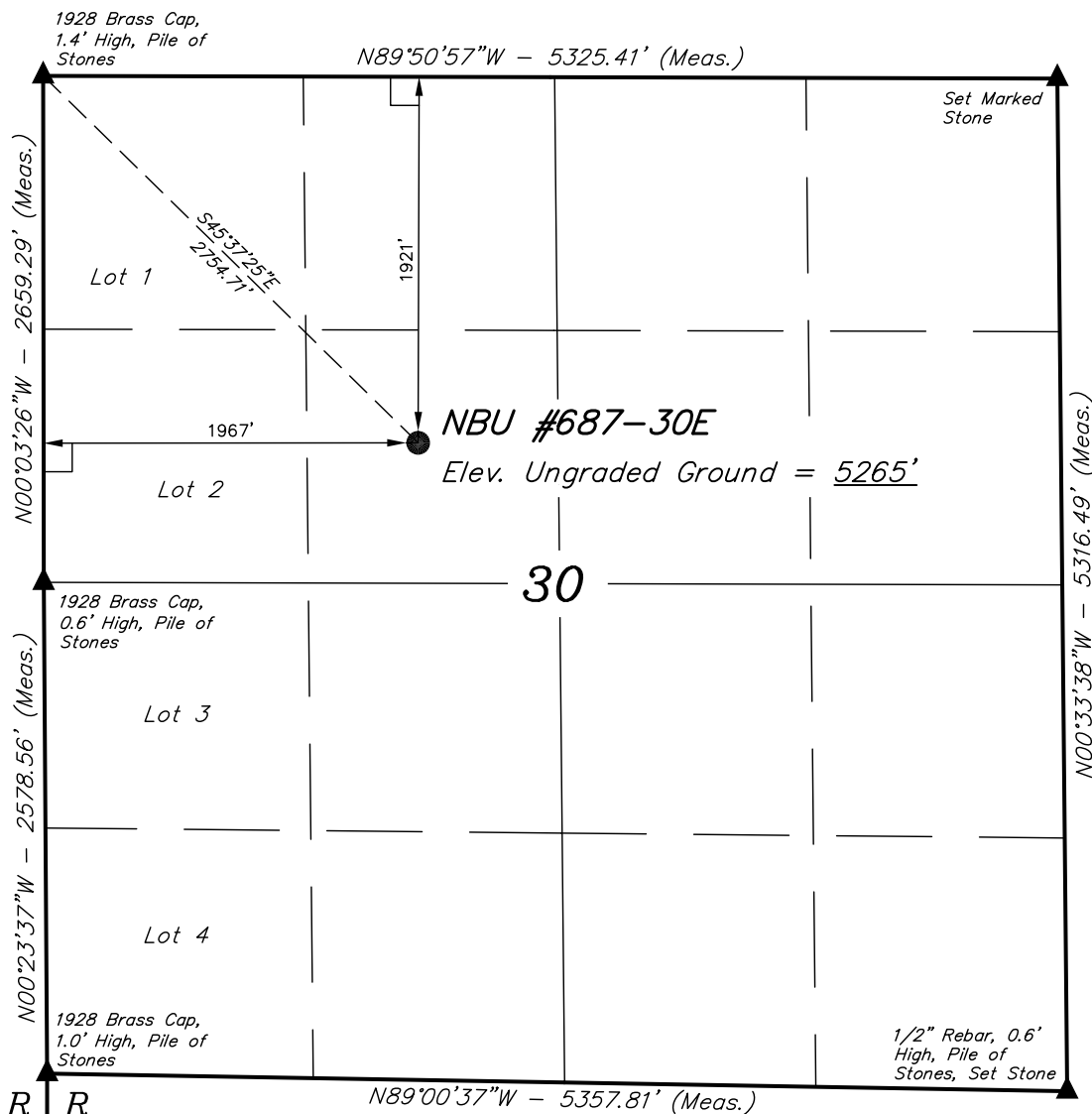
**ATTACHMENTS****VERIFY THE FOLLOWING ARE ATTACHED IN ACCORDANCE WITH THE UTAH OIL AND GAS CONSERVATION GENERAL RULES**

<input checked="" type="checkbox"/> <b>WELL PLAT OR MAP PREPARED BY LICENSED SURVEYOR OR ENGINEER</b>	<input checked="" type="checkbox"/> <b>COMPLETE DRILLING PLAN</b>
<input type="checkbox"/> <b>AFFIDAVIT OF STATUS OF SURFACE OWNER AGREEMENT (IF FEE SURFACE)</b>	<input type="checkbox"/> <b>FORM 5. IF OPERATOR IS OTHER THAN THE LEASE OWNER</b>
<input type="checkbox"/> <b>DIRECTIONAL SURVEY PLAN (IF DIRECTIONALLY OR HORIZONTALLY DRILLED)</b>	<input checked="" type="checkbox"/> <b>TOPOGRAPHICAL MAP</b>
<b>NAME</b> Kaylene Gardner	<b>TITLE</b> Regulatory Administrator
<b>SIGNATURE</b>	<b>DATE</b> 08/26/2009
<b>PHONE</b> 435 781-9111	<b>EMAIL</b> kaylene_gardner@eogresources.com
<b>API NUMBER ASSIGNED</b> 43047506970000	<b>APPROVAL</b>  Permit Manager

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Surf	12.25	9.625	0	2300		
Pipe	Grade	Length	Weight			
	Grade J-55 ST&C	2300	36.0			

Proposed Hole, Casing, and Cement						
String	Hole Size	Casing Size	Top (MD)	Bottom (MD)		
Prod	7.875	4.5	0	7252		
Pipe	Grade	Length	Weight			
	Grade N-80 LT&C	7252	11.6			

# T10S, R21E, S.L.B.&M.



R  
20  
E

R  
21  
E

## LEGEND:

└─┘ = 90° SYMBOL

● = PROPOSED WELL HEAD.

= SECTION CORNERS LOCATED.

(NAD 83)  
 LATITUDE = 39°55'14.06" (39.920572)  
 LONGITUDE = 109°35'49.72" (109.597144)  
 (NAD 27)  
 LATITUDE = 39°55'14.19" (39.920608)  
 LONGITUDE = 109°35'47.24" (109.596456)

## EOG RESOURCES, INC.

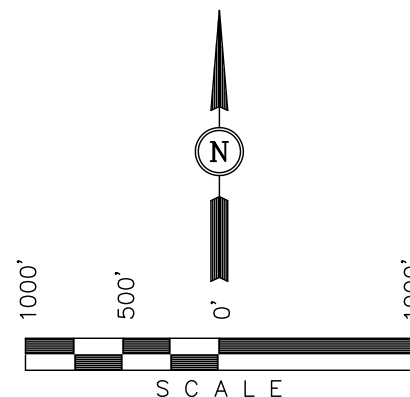
Well location, NBU #687-30E, located as shown in the SE 1/4 NW 1/4 of Section 30, T10S, R21E, 6th P.M., Uintah County, Utah.

## BASIS OF ELEVATION

TWO WATER TRIANGULATION STATION LOCATED IN THE NW 1/4 OF SECTION 1, T10S, R21E, S.L.B.&M. TAKEN FROM THE BIG PACK MTN NE, QUADRANGLE, UTAH, UTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5238 FEET.

## BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



## CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

ROBERT L. KAY  
 REGISTERED LAND SURVEYOR  
 REGISTRATION NO. 161319  
 STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING  
 85 SOUTH 200 EAST - VERNAL, UTAH 84078  
 (435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 04-01-09	DATE DRAWN: 04-07-09
PARTY G.S. C.R. K.G.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE EOG RESOURECES, INC.	

APIWellNo:43047506970000

**EIGHT POINT PLAN**

**NATURAL BUTTES UNIT 687-30E**  
**SE/NW, SEC.30, T10S, R21E, S.L.B.&M..**  
**UINTAH COUNTY, UTAH**

**1. & 2. ESTIMATED TOPS & ANTICIPATED OIL, GAS, & WATER ZONES:**

<b>FORMATION</b>	<b>TVD-RKB (ft)</b>	<b>Objective</b>	<b>Lithology</b>	
Green River	1,179		Shale	
Birdsnest Zone	1,357		Dolomite	
Mahogany Oil Shale	1,796		Shale	
Wasatch	4,323	Primary	Sandstone	Gas
Chapita Wells	4,921	Primary	Sandstone	Gas
Buck Canyon	5,632	Primary	Sandstone	Gas
North Horn	6,487	Primary	Sandstone	Gas
<b>TD</b>	<b>7,252</b>			

**Estimated TD: 7,252' or 200'± below TD**

**Anticipated BHP: 3,960 Psig**

1. Fresh Waters may exist in the upper, approximately 1,000 ft ± of the Green River Formation, with top at about 2,000 ft ±.
2. Cement isolation is installed to surface of the well isolating all zones by cement.

**3. PRESSURE CONTROL EQUIPMENT:**

Production Hole – 5000 Psig  
BOP schematic diagrams attached.

**4. CASING PROGRAM:**

<b>CASING</b>	<b>Hole Size</b>	<b>Length</b>	<b>Size</b>	<b>WEIGHT</b>	<b>Grade</b>	<b>Thread</b>	<b>Rating Collapse</b>	<b>Factor Burst</b>	<b>Tensile</b>
Conductor	20"	0 – 60'	14"	32.5#	A-252	STC		1,880 PSI	10,000#
Surface	12 1/4"	0' – 2,300' KB±	9-5/8"	36.0#	J-55	STC	2020 PSI	3520 Psi	394,000#
Production	7-7/8"	Surface – TD	4-1/2"	11.6#	N-80	LTC	6350 PSI	7780 Psi	233,000#

**Note:** 12-1/4" surface hole will be drilled to a total depth of 200'± below the base of the Green River lost circulation zone and cased w/9-5/8" as shown to that depth. Drilled depth may be shallower or deeper than the 2300' shown above depending on the actual depth of the loss zone.

**All casing will be new or inspected.**

**EIGHT POINT PLAN**

**NATURAL BUTTES UNIT 687-30E**  
**SE/NW, SEC.30, T10S, R21E, S.L.B.&M..**  
**UINTAH COUNTY, UTAH**

**5. Float Equipment:**

**Surface Hole Procedure (0' - 2300'±)**

Guide Shoe

Insert Float Collar (PDC drillable)

Centralizers: 1-5' above shoe, top of jts. #2 and #3 then every 5<sup>th</sup> joint to surface. (15 total)

**Production Hole Procedure (2300'± - TD):**

Float shoe, 1 joint casing, float collar and balance of casing to surface. 4-1/2", 11.6#, N-80 or equivalent marker collars or short casing joints to be placed at top of Price River and 400' above top of Wasatch. Centralizers to be placed 5' above shoe on joint #1, top of joint #2, and every 2nd joint to 400' above Wasatch Island top. Thread lock float shoe, top and bottom of float collar, and top of 2<sup>nd</sup> joint.

**6. MUD PROGRAM**

**Surface Hole Procedure (Surface - 2300'±):**

Air/air mist or aerated water.

**Production Hole Procedure (2300'± - TD):**

Anticipated mud weight 9.5 – 10.5 ppg depending on actual wellbore conditions encountered while drilling.

**2300'± - TD** A closed mud system will be utilized. A bentonite gelled water mud system will be used to control viscosity w/PHPA polymer used for supplemental viscosity and clay encapsulation/inhibition. Water loss will be maintained at <15cc's using white starch or PAC. Bactericides will be used as needed. Anticipated pH will range from 9.0-10.0. Mud weight will be adjusted as necessary for well control. Deflocculants/thinners will be used as necessary to maintain mud quality. LCM sweeps will be utilized as necessary to control lost circulation and mud loss. CO2 contamination, if encountered, will be treated with lime and gypsum.

**EIGHT POINT PLAN**

**NATURAL BUTTES UNIT 687-30E**  
**SE/NW, SEC.30, T10S, R21E, S.L.B.&M..**  
**UINTAH COUNTY, UTAH**

**7. VARIANCE REQUESTS:**

**Reference:** Onshore Oil and Gas Order No. 1  
Onshore Oil and Gas Order No. 2 – Section E: Special Drilling Operations

- EOG Resources, Inc. requests a variance to regulations requiring a straight run blooie line to be 100' in length. (Where possible, a straight run blooie line will be used).
- EOG Resources, Inc. requests a variance to regulations requiring the blooie line to be 100' in length. To reduce location excavation, the blooie line will be approximately 75' in length.
- EOG Resources, Inc. requests a variance to regulations, during air drilling operations only, requiring dedusting equipment. Dust during air drilling operations is controlled by water mist.
- EOG Resources, Inc. requests a variance to regulations, during air drilling operations only, requiring an automatic igniter or continuous pilot light on the blooie line. (Not required on aerated water system).
- EOG Resources, Inc. requests a variance that compressors are located in the opposite direction from the blooie line a minimum of 100 feet from the well bore. (Air Compressors are rig mounted).

**8. EVALUATION PROGRAM:**

**Logs:** Mud log from base of surface casing to TD.

**Cased-hole Logs:** Cased-hole logs will be run in lieu of open-hole logs consisting of the following: **Cement Bond / Casing Collar Locator and Pulsed Neutron**

**EIGHT POINT PLAN**

**NATURAL BUTTES UNIT 687-30E**  
**SE/NW, SEC.30, T10S, R21E, S.L.B.&M..**  
**UINTAH COUNTY, UTAH**

**9. CEMENT PROGRAM:**

**Surface Hole Procedure (Surface - 2300'±):**

- Lead: 185 sks** Class "G" cement with 16% Gel, 10 #/sx Gilsonite, 3% Salt, 2% CaCl<sub>2</sub>, 3 lb/sx GR3 ¼ #/sx Flocele mixed at 11 ppg, 3.82 ft<sup>3</sup>/sk. yield, 23 gps water.
- Tail: 207 sks** Class "G" cement with 2% CaCl<sub>2</sub>, ¼#/sk Flocele mixed at 15.6 ppg, 1.18 ft<sup>3</sup>/sk., 5.2 gps water.
- Top Out:** As necessary with Class "G" cement with 2% CaCl<sub>2</sub>, ¼#/sk Flocele mixed at 15.6 ppg, 1.18 ft<sup>3</sup>/sk., 5.2 gps water.
- Note:** Cement volumes will be calculated to bring lead cement to surface and tail cement to 500' above the casing shoe.

**Production Hole Procedure (2300'± - TD)**

- Lead: 110 sks:** Hi-Lift "G" w/12% D20 (Bentonite), 1% D79 (Extender), 5% D44 (Salt), 0.2% D46 (Antifoam), 0.25% D112 (Fluid Loss Additive), 0.25 pps D29 (cello flakes) mixed at 11.0 ppg, 3.91 ft<sup>3</sup>/sk., 24.5 gps water.
- Tail: 595 sks:** 50:50 Poz "G" w/ 2% D20 (Bentonite), 0.1% D46 (Antifoam), 0.075% D13 (Retarder), 0.2% D167 (Fluid Loss Additive), 0.2% D65 (Dispersant), mixed at 14.1 ppg, 1.28 ft<sup>3</sup>/sk., 5.9gps water.
- Note:** The above number of sacks is based on gauge-hole calculation.  
Lead volume to be calculated to bring cement to 200'± above 9-5/8" casing shoe.  
Tail volume to be calculated to bring cement to 400'± above top of Wasatch.

**Final Cement volumes will be based upon gauge-hole plus 45% excess.**

**10. ABNORMAL CONDITIONS:**

**Surface Hole (Surface - 2300'±):**

Lost circulation

**Production Hole (2300'± - TD):**

Sloughing shales, lost circulation and key seat development are possible in the Wasatch Formation.



**EIGHT POINT PLAN**

**NATURAL BUTTES UNIT 687-30E**  
**SE/NW, SEC.30, T10S, R21E, S.L.B.&M..**  
**UINTAH COUNTY, UTAH**

**11. STANDARD REQUIRED EQUIPMENT:**

- A. Choke Manifold
- B. Upper and Lower Kelly Cock
- C. Stabbing Valve
- D. Visual Mud Monitoring

**12. HAZARDOUS CHEMICALS:**

No chemicals subject to reporting under SARA title III in an amount equal to or greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling of this well. Furthermore, no extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will be used, produced, stored, transported, or disposed of in association with the drilling of this well.

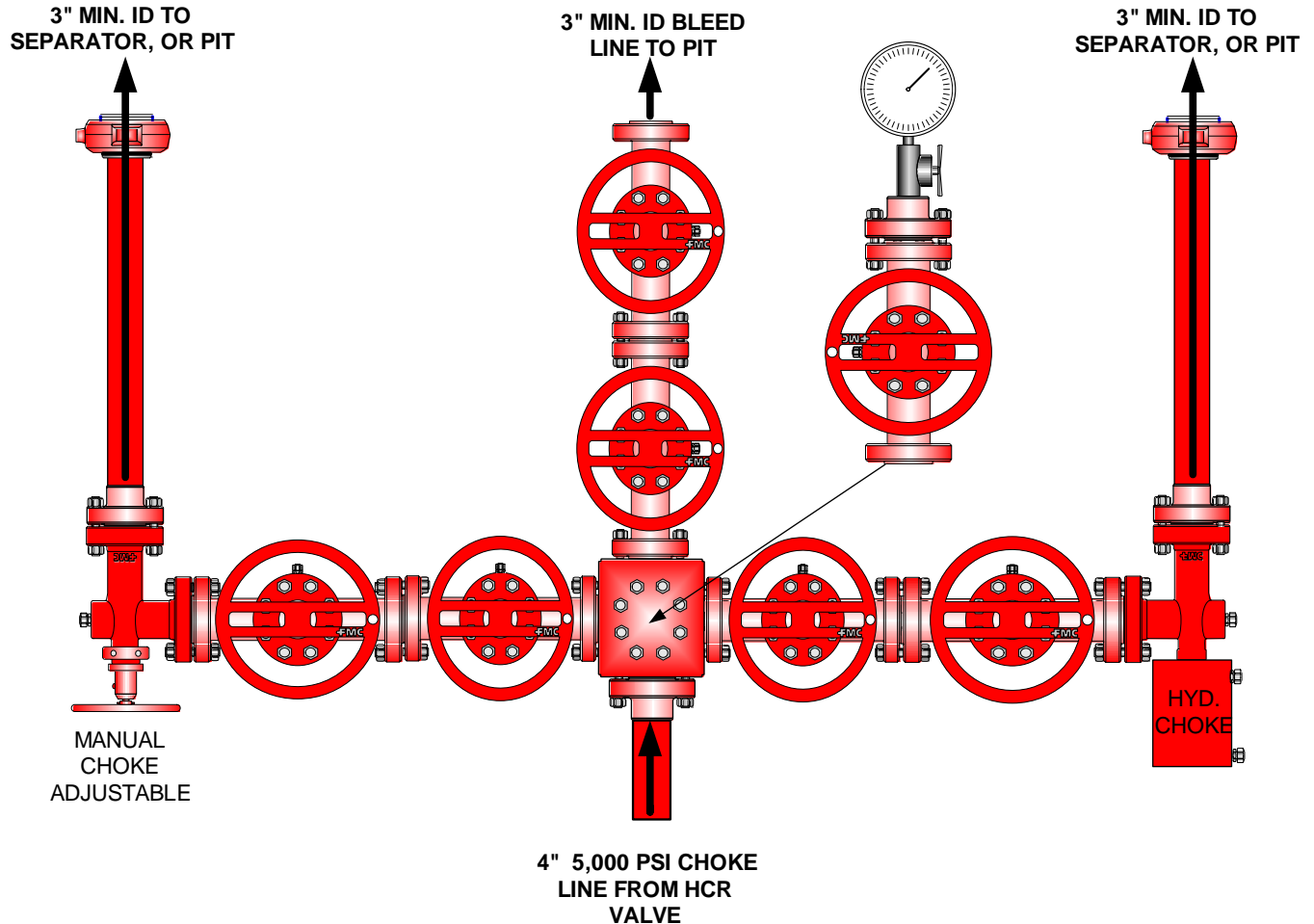
**13. Air Drilling Operations:**

- 1. Main Air Compressors are 1250 CFM 350 psi with 2000 psi Boosters and are rig mounted.
- 2. Secondary Air Compressors are 1170 CFM 350 psi with 2000 psi Boosters and are rig mounted.
- 3. Minimum setting depth of conductor casing will be 60' GL or 10'± into competent formation, whichever is deeper, as determined by the EOG person in charge. Exceptions must be approved by an EOG drilling superintendent or manager.
- 4. The diameter of the diverter flow line will be a minimum of 10" to help reduce back pressure on the well bore during uncontrolled flow.
- 5. Rat and Mouse hole drilling will occur only after surface casing has been set and cemented.
- 6. EOG Resources, Inc. will use a properly maintained and lubricated stripper head.

**(Attachment: BOP Schematic Diagram)**

**EOG RESOURCES CHOKE MANIFOLD CONFIGURATION  
W/ 5,000 PSI WP VALVES**

PAGE 2 OF 2

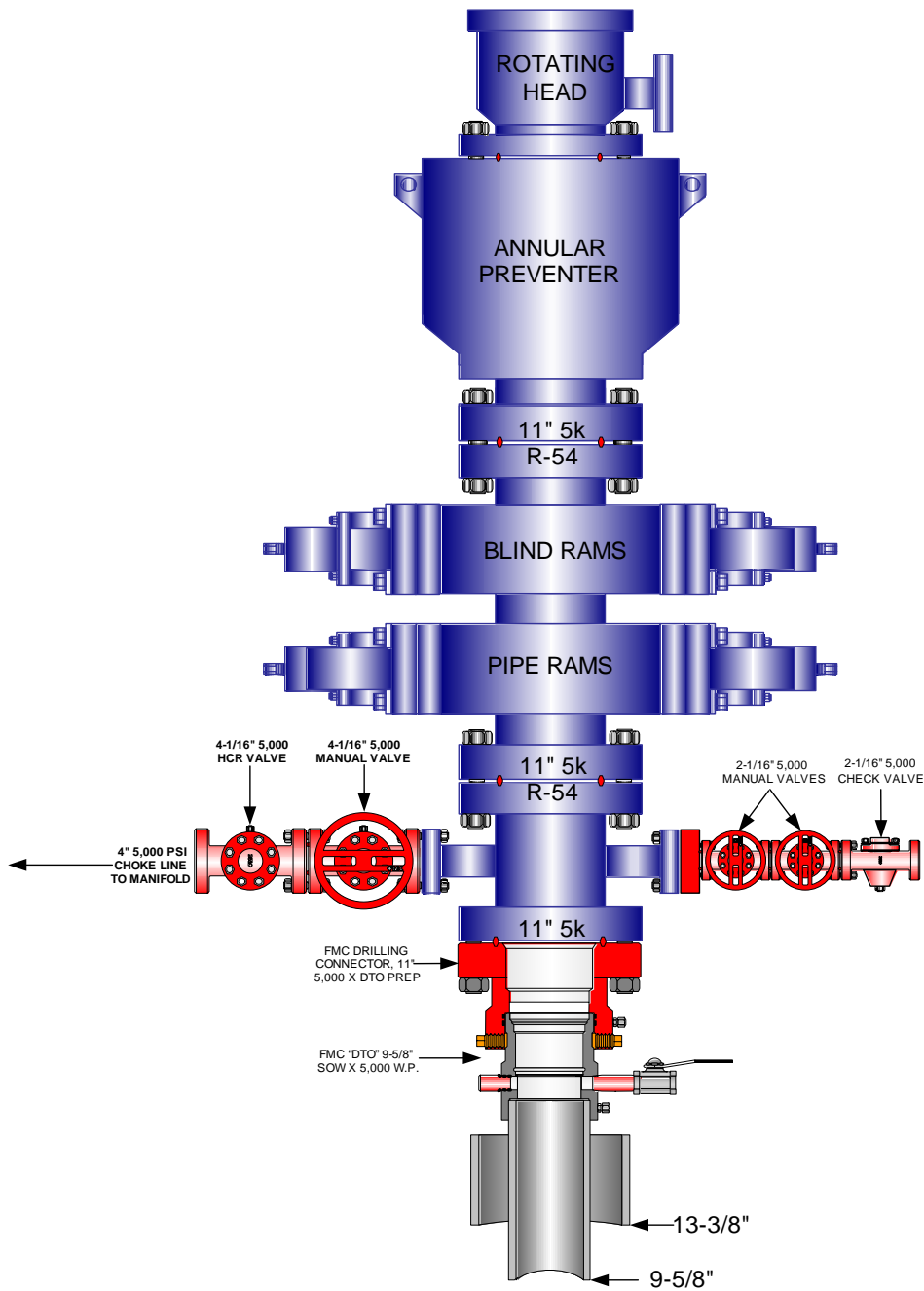


**Testing Procedure:**

1. BOP will be tested with a professional tester to conform to Onshore Order #2.
2. Blind and Pipe rams will be tested to rated working pressure, 5,000 psi.
3. Annular Preventer will be tested to 50% working pressure, 2,500 psi.  
Casing will be tested to 0.22 psi / ft. or 1,500 psi. Not to exceed 70% of burst strength, **whichever is greater.**
4. All lines subject to well pressure will be tested to the same pressure as blind and pipe rams.
5. All BOPE specifications and configurations will meet Onshore Order #2 requirements.

**EOG RESOURCES 11" 5,000 PSI W.P. BOP  
CONFIGURATION**

PAGE 1 OF 2





***Natural Buttes Unit 687-30E  
SENW, Section 30, T10S, R21E  
Uintah County, Utah***

***SURFACE USE PLAN***

***1. EXISTING ROADS:***

- A. See attached Plats showing directional reference stakes on location, and attached TOPO Map "B" showing access to location from existing roads.
- B. The proposed well site is located approximately 45.9 miles south of Vernal, Utah – See attached TOPO Map "A".
- C. Refer to attached Topographic Map "A" showing labeled access route to location.
- D. Existing roads will be maintained and repaired as necessary.

***2. PLANNED ACCESS ROAD:***

- A. The access road will be approximately 2112-feet in length. See attached Topo B.
- B. The access road has a 30 foot ROW w/18 foot running surface.
- C. Maximum grade of the new access road will be 8 percent.
- D. No turnouts will be required.
- E. Road drainage crossings shall be of the typical dry creek drainage crossing type.
- F. No bridges, or major cuts and fills will be required.
- G. The access road will be dirt surface.
- H. No gates, cattleguards, or fences will be required or encountered.
- I. A 40-foot permanent right-of-way is requested. No surfacing material will used.
- J. No additional storage areas will be needed for storing equipment, stockpiling, or vehicle parking.

All travel will be confined to existing access road rights-of-way.

New or reconstructed roads will be centerlined – flagged at time of location staking.

The road shall be constructed/upgraded to meet the standards of the anticipated traffic flow and all-weather road requirements. Construction/upgrading shall include ditching, draining, graveling, crowning, and capping the roadbed as necessary to provide a well constructed safe road. Prior to upgrading, the road shall be cleared of any snow cover and allowed to dry completely. Traveling off the 30 foot right-of-way will not be allowed. Road drainage crossings shall be of the typical dry creek drainage crossing type. Crossings shall be designed so they will not cause siltation or accumulation of debris in the drainage crossing nor shall the drainages be blocked by the roadbed. Erosion of drainage ditches by runoff water shall be prevented by diverting water off at frequent intervals by means of cutouts. Upgrading shall not be allowed during muddy conditions. Should mud holes develop, they shall be filled in and detours around them avoided.

As operator, EOG Resources, Inc. shall be responsible for all maintenance on cattleguards, or gates associated with this oil and/or gas operation.

Traveling off the 30 foot right-of-way will not be allowed. The access road and associated drainage structures will be constructed and maintained in accordance with road guidelines contained in the joint BLM/USFS publication: Surface Operating Standards for Oil and Gas Exploration and Development, Third Edition, and/or BLM Manual Section 9113 concerning road construction standards on projects subject to federal jurisdiction. During the drilling and production phase of operations, the road surface and shoulders will be kept in a safe and useable condition and drainage ditches and culverts will be kept clear and free flowing.

### **3. LOCATION OF EXISTING WELLS WITHIN A ONE-MILE RADIUS:**

See attached TOPO map "C" for the location of wells within a one-mile radius.

### **4. LOCATION OF EXISTING AND/OR PROPOSED PRODUCTION FACILITIES:**

#### **A. On Well Pad**

1. Production facilities will be set on location if the well is successfully completed for production. Facilities will consist of wellhead valves, combo separator-dehy unit with meter, two (2) 400 bbl vertical tanks and attaching piping.
2. Gas gathering lines – A 4" gathering line will be buried from dehy to the edge of the location.

#### **B. Off Well Pad**

1. Proposed pipeline will transport natural gas.
2. The pipeline will be a permanent feeder line.
3. The length of the proposed pipeline is 5350' x 8'. The proposed pipeline leaves the northern edge of the well pad (Lease ML-22793) proceeding in a northerly direction for an approximate distance of 5350' tying into an existing pipeline in the SESE of Section 24, T10S, R20E. Pipe will be 4" NOM, 0.156 wall, Grade X42, Zap-Lock, electric weld with a 35 mil X-Tru coating.

4. Proposed pipeline will be a 4" OD steel, zap-lok line laid on the surface
5. Proposed pipeline will be laid on surface.
6. A 20-foot permanent pipeline right-of-way is requested. A 40-foot temporary pipeline right-of-way for construction purposes is requested, the temporary right-of-way will be utilized for a 10-day period.
7. Pipeline will be coupled using the Zap lock method. No additional off-pad facilities will be required.

All permanent (on site for six months or longer) structures constructed or installed (including pumping units) will be painted a flat, non-reflective, earthtone color to match one of the standard environmental colors, as determined by the Rocky Mountain Five State Interagency Committee. All facilities will be painted within 6 months of installation. **All facilities will be painted with Carlsbad Canyon.** Facilities required to comply with O.S.H.A. (Occupational Safety and Health Act) will be excluded.

**5. LOCATION AND TYPE OF WATER SUPPLY:**

- A. Water supply will be from Ouray Municipal Water Plant at Ouray, Utah, and/ or Bonanza Power Plant water source in Sec 26, T8S, R23E Uintah County, UT (State Water Right # 49-225(A31368)). Water will be hauled by a licensed trucking company.
- B. Water will be hauled by a licensed trucking company.
- C. No water well will be drilled on lease.

**6. SOURCE OF CONSTRUCTION MATERIALS:**

- A. All construction material for this pipeline will be of native borrow and soil accumulated during the construction of the location.
- B. No mineral materials will be required.

**7. METHODS OF HANDLING WASTE DISPOSAL:**

**A. METHODS AND LOCATION**

1. Cuttings will be confined in the reserve pit.
2. A portable toilet will be provided for human waste during the drilling and completion of the well. Disposal will be at the Vernal sewage disposal plant.
3. Burning will not be allowed. Trash and other waste material will be contained in a wire mesh cage and disposed of at the Uintah County Landfill.

4. Produced wastewater will be confined to a lined pit or storage tank for a period not to exceed 90 days after initial production. After the 90 day period, the produced water will be contained in a tank on location and then disposed of at one of the following locations: Natural Buttes Unit 21-20B SWD, Ace Disposal, CWU 550-30N SWD or EOG Resources, Inc. drilling operations (Chapita Wells Unit, Natural Buttes Unit & Stagecoach Unit).
  5. All chemicals will be disposed of at an authorized disposal site. Drip pans and absorbent pads will be used on the drilling rig to avoid leakage of oil to the pit.
- B. Water from drilling fluids and recovered during testing operations will be disposed of by either evaporating in the reserve pit or by removed and disposed of at an authorized disposal site. Introduction of well bore hydrocarbons to the reserve pit will be avoided by flaring them off in the flare pit at the time of recovery.

The reserve pit will be constructed so as not to leak, break, or allow discharge. If the reserve pit requires padding prior to lining (due to rocky conditions) felt padding will be used.

The reserve pit shall be lined with felt and a 16 millimeter plastic liner. Sufficient bedding (i.e. weed free straw, or hay; felt; polyswell or soil) to cover any rocks. The liner will overlap the pit walls and be covered with dirt and/or rocks to hold it in place. No trash, scrap pipe, etc., that could puncture the liner will be disposed of in the pit. More stringent protective requirements may be deemed necessary by the A.O.

EOG Resources, Inc. maintains a file, per 29 CFR 1910.1200 (g) containing current Material Safety Data Sheets (MSDS) for all chemicals, compounds, and/or substances which are used during the course of construction, drilling, completion, and production operations for this project. Hazardous materials (substances) which may be found at the site may include drilling mud and cementing products which are primarily inhalation hazards, fuels (flammable and/or combustible), materials that may be necessary for well completion/ stimulation activities such as flammable or combustible substances and acids/gels (corrosives). The opportunity for Superfund Amendments and Reauthorization Act (SARA) listed Extremely Hazardous Substances (EHS) at the site is generally limited to proprietary treating chemicals. All hazardous and EHS and commercial preparations will be handled in an appropriate manner to minimize the potential for leaks or spills to the environment.

No chemicals subject to reporting under SARA Title III (hazardous materials) in an amount greater than 10,000 pounds will be used, produced, stored, transported, or disposed of annually in association with the drilling, testing, or completion of the well. Furthermore, extremely hazardous substances, as defined in 40 CFR 355, in threshold planning quantities, will not be used, produced, stored, transported, or disposed of in association with the drilling, testing or completion of the well.

## **8. ANCILLARY FACILITIES:**

None anticipated.

**9. WELL SITE LAYOUT:**

- A. Refer to attached well site plat for related topography cuts and fills and cross sections.
- B. Refer to attached well site plat for rig layout and soil material stockpile location as approved on On-site.
- C. Refer to attached well site plat for rig orientation, parking areas, and access road.

The reserve pit will be located on the west corner of the location. The flare pit will be located downwind of the prevailing wind direction, a minimum of 100 feet from the well head and 30 feet from the reserve pit fence.

The stockpiled pit topsoil (first six inches) will be stored between corners #2 and #8, and corners #7 and #8. Upon completion of construction, the stockpiled topsoil from the location will be broadcast seeded with the approved seed mixture from this location and then walked down with a Caterpillar tractor.

Access to the well pad will be from the north.

**FENCING REQUIREMENTS:**

All pits will be fenced according to the following minimum standards:

- A. Thirty-nine inch net wire shall be used with at least one strand of barbed wire on top of the net wire. (Barbed wire is not necessary if pipe or some type of reinforcement rod is attached to the top of the entire fence.)
- B. The net wire shall be no more than 2 inches above the ground. The barbed wire strand shall be 3 inches above the net wire. Total height of the fence shall be at least 42 inches.
- C. Corner posts shall be cemented and/or braced in such a manner as to keep the fence tight at all times.
- D. Standard steel, wood, or pipe posts shall be used between the corner braces. Maximum distances between any two posts shall be no greater than 16 feet.
- E. All wire shall be stretched by using a stretching device before it is attached to the corner posts.

The reserve pit fencing will be on the three sides during drilling operations and on the fourth side when the rig moves off location. Pits will be fenced and maintained until clean-up.

Each existing fence to be crossed by the access road shall be braced and tied off before cutting so as to prevent slacking of the wire. The opening shall be closed temporarily as necessary during construction to prevent the escape of livestock, and, upon completion



of construction, the fence shall be repaired to BLM or SMA specifications. A cattleguard with an adjacent 16 foot gate shall be installed in any fence where a road is regularly traveled. If the well is a producer, the cattleguards (shall/shall not) be permanently counted on concrete bases. Prior to crossing any fence located on Federal land, or any fence between Federal land and private land, the operator will contact the BLM, who will in turn contact the grazing permittee or owner of said fence and offer him/her the opportunity to be present when the fence is cut in order to satisfy himself/herself that the fence is adequately braced and tied off.

#### **10. PLANS FOR RECLAMATION OF THE SURFACE:**

##### **A. Interim Reclamation (Producing Location)**

Immediately upon well completion, the location and surrounding area will be cleared of all unused tubing, equipment, debris, materials, trash, and junk not required for production.

Immediately upon well completion, any hydrocarbons on the pit shall be removed in accordance with CFR 3162.7-1.

If a plastic nylon reinforced liner is used, it shall be torn and perforated before backfilling of the reserve pit.

The reserve pit and that portion of the location not needed for production facilities/operations will be re-seeded reducing the surface impacts – See attached Figure #3. The reserve pit will be reclaimed within 90 days from the date of the well completion, or as soon as environmental conditions allow. Before any dirt takes place, the reserve pit must be completely dry and free of all foreign obstacles.

The stockpiled pit topsoil will then be spread over the pit area and broadcast seeded with the prescribed seed mixture for this location.

##### **B. Dry Hole/Abandoned Location**

At such time as the well is plugged and abandoned, the operator will submit a subsequent report of abandonment and the BLM will attach the appropriated surface rehabilitation conditions of approval.

#### **11. SURFACE OWNERSHIP:**

Surface ownership of the proposed well site, access road, and pipeline route is as follows:

##### **State of Utah**

#### **12. OTHER INFORMATION:**

- A. EOG Resources, Inc. will inform all persons in the area who are associated with this project that they are subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials

are uncovered during construction, the operator will immediately stop work that might further disturb such materials, and contact the Authorized Officer. Within five working days the Authorized Officer will inform the operator as to:

- Whether the materials appear eligible for the National Register of Historic Places;
- The mitigation measures the operator will likely have to undertake before the site can be used.
- A time frame for the Authorized Officer to complete an expedited review under 36 CFR 800.11 to confirm, through the State Historic Preservation Officer, that the findings of the Authorized Officer are correct and that mitigation is appropriate.

If the operator wished, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the Authorized Officer will assume responsibility for whatever recordation and stabilization of the exposed materials that may be required. Otherwise, the operator will be responsible for mitigation costs. The Authorized Officer will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the Authorized Officer that required mitigation has been completed, the operator will then be allowed to resume construction.

- B. As operator, EOG Resources, Inc. will control noxious weeds along Right-of-Ways for roads, pipelines, well sites, or other applicable facilities. A list of noxious weeds will be obtained from the BLM administered land, a Pesticide Use proposal shall be submitted, and given approval, prior to the application or herbicides or other pesticides or possible hazardous chemicals.
- C. Drilling rigs and/or equipment used during drilling operations on this well site will not be stacked or stored on BLM lands after the conclusion of drilling operations or at any other time without BLM authorization. However, if BLM authorization is obtained, it is only a temporary measure to allow time to make arrangements for permanent storage on commercial facilities. (The BLM does not seek to compete with private industry. There are commercial facilities available for stacking and storing drilling rigs.)
- D. The drilling rig and ancillary equipment will be removed from the location prior to commencement of completion operations. Completion operations will be conducted utilizing a completion/workover rig.

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved Plan of Operations, and any applicable Notice of Lessees. The operator is fully responsible for the actions of its subcontractors. A complete copy of the approved "Application for Permit to Drill" will be furnished to the field representative(s) to ensure compliance and shall be on location during all construction and drilling operations.

Construction activity will not be conducted using frozen or saturated soils material or during periods when watershed damage is likely to occur.

If the existing access road, proposed access road, and proposed pad are dry during construction, drilling, and completion activities, water will be applied to help facilitate compaction during construction and to minimize soil loss as a result of wind erosion.

A Cultural Resources survey will be conducted and submitted by Montgomery Archaeological Consultants. A Paleontological survey will be conducted and submitted by Intermountain Paleo.

***LESSEE OR OPERATOR'S REPRESENTATIVE AND CERTIFICATION:***

**PERMITTING AGENT**

Kaylene R. Gardner  
EOG Resources, Inc.  
P.O. Box 1815  
Vernal, Ut 84078  
(435) 781-9111

All lease and/or unit operations will be conducted in such a manner that full compliance is made with all applicable laws, regulations, Onshore Oil and Gas Orders, the approved plan of operations, and any applicable Notice to Lessees. The operator is fully responsible for the actions of his subcontractors. A copy of these conditions will be furnished to the field representative to insure compliance.

**CERTIFICATION:**

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access route; that I am familiar with the conditions which currently exist; that the statements made in this plan are, to the best of my knowledge, true and correct; and that the work associated with the operations proposed herein will be performed by EOG Resources, Inc. and its contractors and subcontractors in conformity with this plan and the terms and conditions under which it is approved. This statement is subject to the provisions of 18 U.S.C. 1001 for the filing of a false statement.

Please be advised that EOG Resources, Inc. is considered to be the operator of the Natural Buttes Unit 687-30E Well, located in the SENW, of Section 30, T10S, R21E, Uintah County, Utah; State land and minerals; and is responsible under the terms and conditions of the lease for the operations conducted upon the leased lands. Bond Coverage is under Bond # NM 2308.

August 22, 2009  
Date

\_\_\_\_\_  
Kaylene R. Gardner, Regulatory Administrator

**EOG RESOURCES, INC.**  
**NBU #687-30E**  
**LOCATED IN UINTAH COUNTY, UTAH**  
**SECTION 30, T10S, R21E, S.L.B.&M.**



PHOTO: VIEW FROM CORNER #5 TO LOCATION STAKE

CAMERA ANGLE: SOUTHWESTERLY



PHOTO: VIEW FROM BEGINNING OF PROPOSED ACCESS

CAMERA ANGLE: SOUTHERLY



- Since 1964 -

**UELS**

Uintah Engineering & Land Surveying  
85 South 200 East Vernal, Utah 84078  
(435) 789-1017 \* FAX (435) 789-1813

**LOCATION PHOTOS**

**04 15 09**  
MONTH DAY YEAR

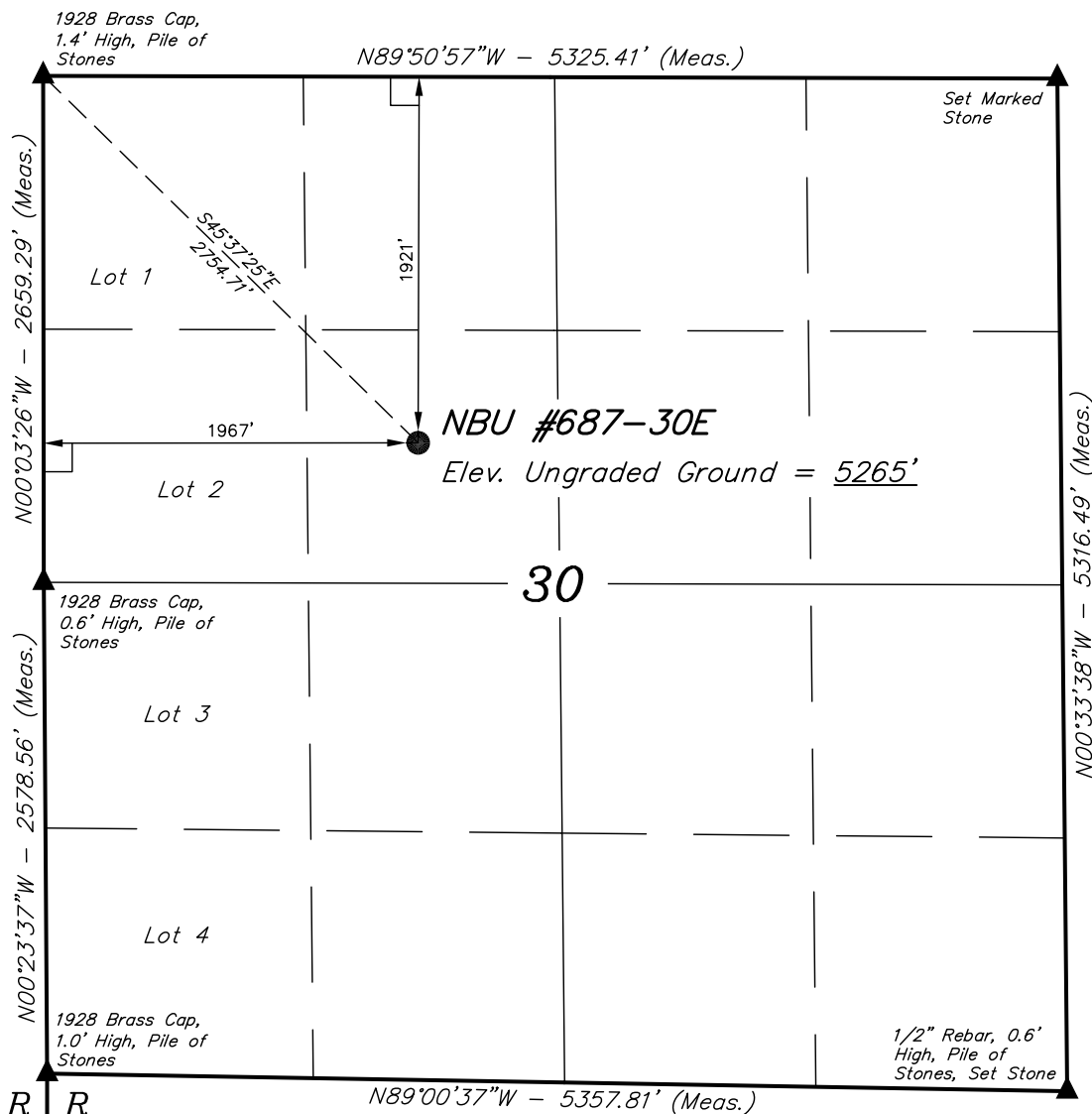
**PHOTO**

TAKEN BY: G.S.

DRAWN BY: Z.L.

REVISED: 00-00-00

# T10S, R21E, S.L.B.&M.



R  
20  
E

R  
21  
E

## LEGEND:

└─┘ = 90° SYMBOL

● = PROPOSED WELL HEAD.

— = SECTION CORNERS LOCATED.

(NAD 83)  
LATITUDE = 39°55'14.06" (39.920572)  
LONGITUDE = 109°35'49.72" (109.597144)  
(NAD 27)  
LATITUDE = 39°55'14.19" (39.920608)  
LONGITUDE = 109°35'47.24" (109.596456)

## EOG RESOURCES, INC.

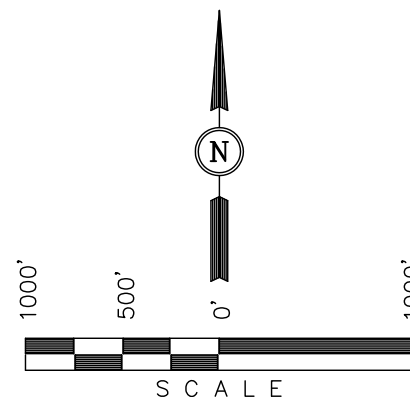
Well location, NBU #687-30E, located as shown in the SE 1/4 NW 1/4 of Section 30, T10S, R21E, 6th P.M., Uintah County, Utah.

## BASIS OF ELEVATION

TWO WATER TRIANGULATION STATION LOCATED IN THE NW 1/4 OF SECTION 1, T10S, R21E, S.L.B.&M. TAKEN FROM THE BIG PACK MTN NE, QUADRANGLE, UTAH, UTAH COUNTY, 7.5 MINUTE QUAD. (TOPOGRAPHIC MAP) PUBLISHED BY THE UNITED STATES DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY. SAID ELEVATION IS MARKED AS BEING 5238 FEET.

## BASIS OF BEARINGS

BASIS OF BEARINGS IS A G.P.S. OBSERVATION.



## CERTIFICATE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM FIELD NOTES OF ACTUAL SURVEYS MADE BY ME OR UNDER MY SUPERVISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

ROBERT L. KAY  
REGISTERED LAND SURVEYOR  
REGISTRATION NO. 161319  
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING  
85 SOUTH 200 EAST - VERNAL, UTAH 84078  
(435) 789-1017

SCALE 1" = 1000'	DATE SURVEYED: 04-01-09	DATE DRAWN: 04-07-09
PARTY G.S. C.R. K.G.	REFERENCES G.L.O. PLAT	
WEATHER COOL	FILE EOG RESOURECES, INC.	

APIWellNo:43047506970000

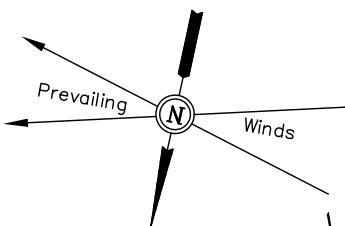


# EOG RESOURCES, INC.

## LOCATION LAYOUT FOR

NBU #687-30E  
SECTION 30, T10S, R21E, S.L.B.&M.  
1921' FNL 1967' FWL

FIGURE #1

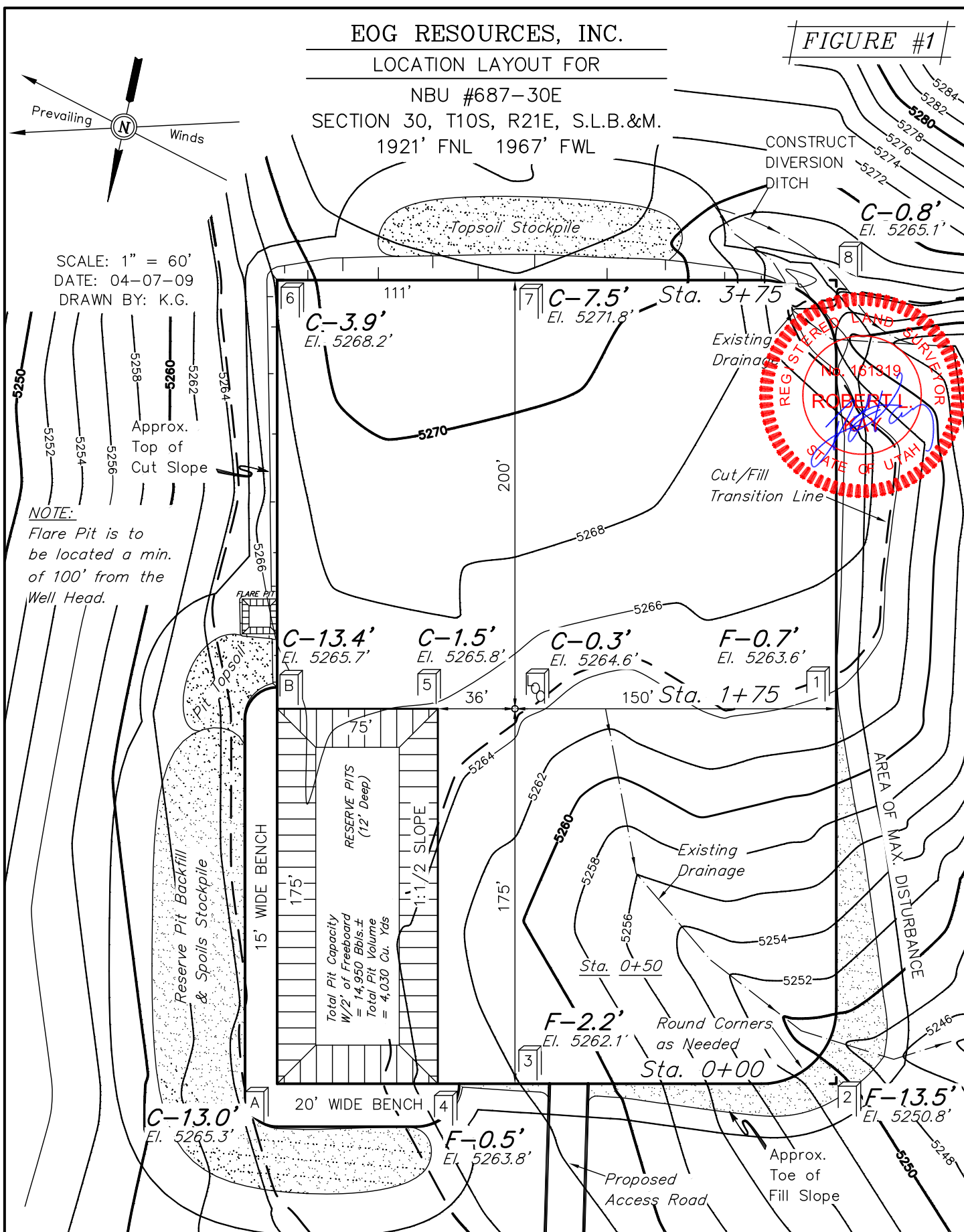


SCALE: 1" = 60'  
DATE: 04-07-09  
DRAWN BY: K.G.

Approx.  
Top of  
Cut Slope

### NOTE:

Flare Pit is to be located a min. of 100' from the Well Head.



Elev. Ungraded Ground At Loc. Stake = 5264.6'  
FINISHED GRADE ELEV. AT LOC. STAKE = 5264.3'

UINTAH ENGINEERING & LAND SURVEYING

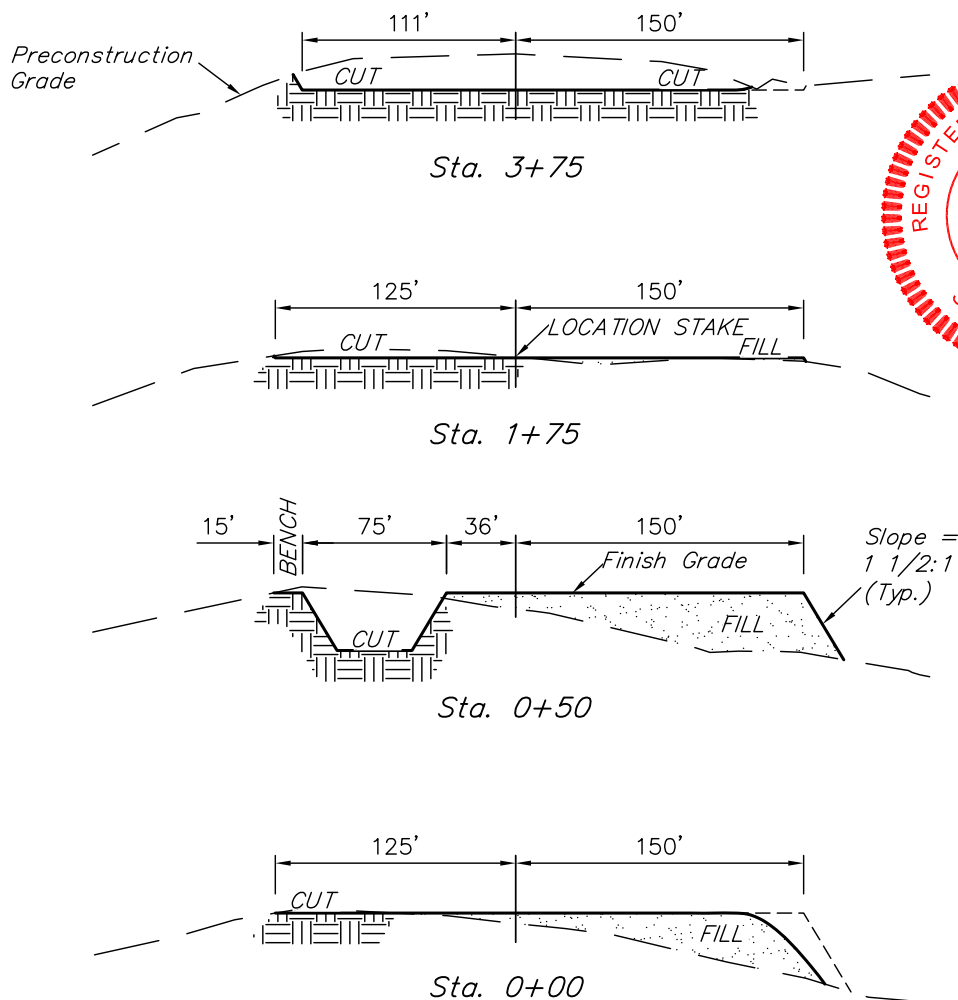
85 So. 200 East \* Vernal, Utah 84078 \* (435) 789-1017

**EOG RESOURCES, INC.**  
**TYPICAL CROSS SECTION FOR**  
**NBU #687-30E**  
**SECTION 30, T10S, R21E, S.L.B.&M.**  
**1921' FNL 1967' FWL**

**FIGURE #2**

X-Section  
Scale  
1" = 100'

DATE: 04-07-09  
DRAWN BY: K.G.



**NOTE:**

Topsoil should not be Stripped Below Finished Grade on Substructure Area.

**APPROXIMATE ACREAGES**  
WELL SITE DISTURBANCE = ± 3.383 ACRES  
ACCESS ROAD DISTURBANCE = ± 1.455 ACRES  
PIPELINE DISTURBANCE = ± 3.900 ACRES  
TOTAL = ± 8.738 ACRES

**\* NOTE:**  
FILL QUANTITY INCLUDES 5% FOR COMPACTION

**APPROXIMATE YARDAGES**

(6") Topsoil Stripping = 2,090 Cu. Yds.  
Remaining Location = 10,410 Cu. Yds.  
**TOTAL CUT = 12,500 CU.YDS.**  
**FILL = 8,390 CU.YDS.**

EXCESS MATERIAL = 4,110 Cu. Yds.  
Topsoil & Pit Backfill = 4,110 Cu. Yds.  
(1/2 Pit Vol.)  
EXCESS UNBALANCE = 0 Cu. Yds.  
(After Interim Rehabilitation)

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# EOG RESOURCES, INC.

## TYPICAL RIG LAYOUT FOR

NBU #687-30E

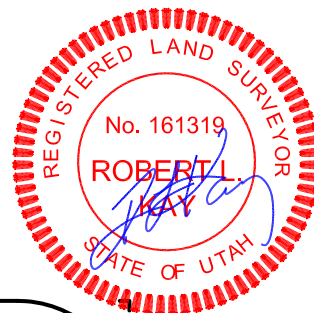
SECTION 30, T10S, R21E, S.L.B.&M.

1921' FNL 1967' FWL

FIGURE #3

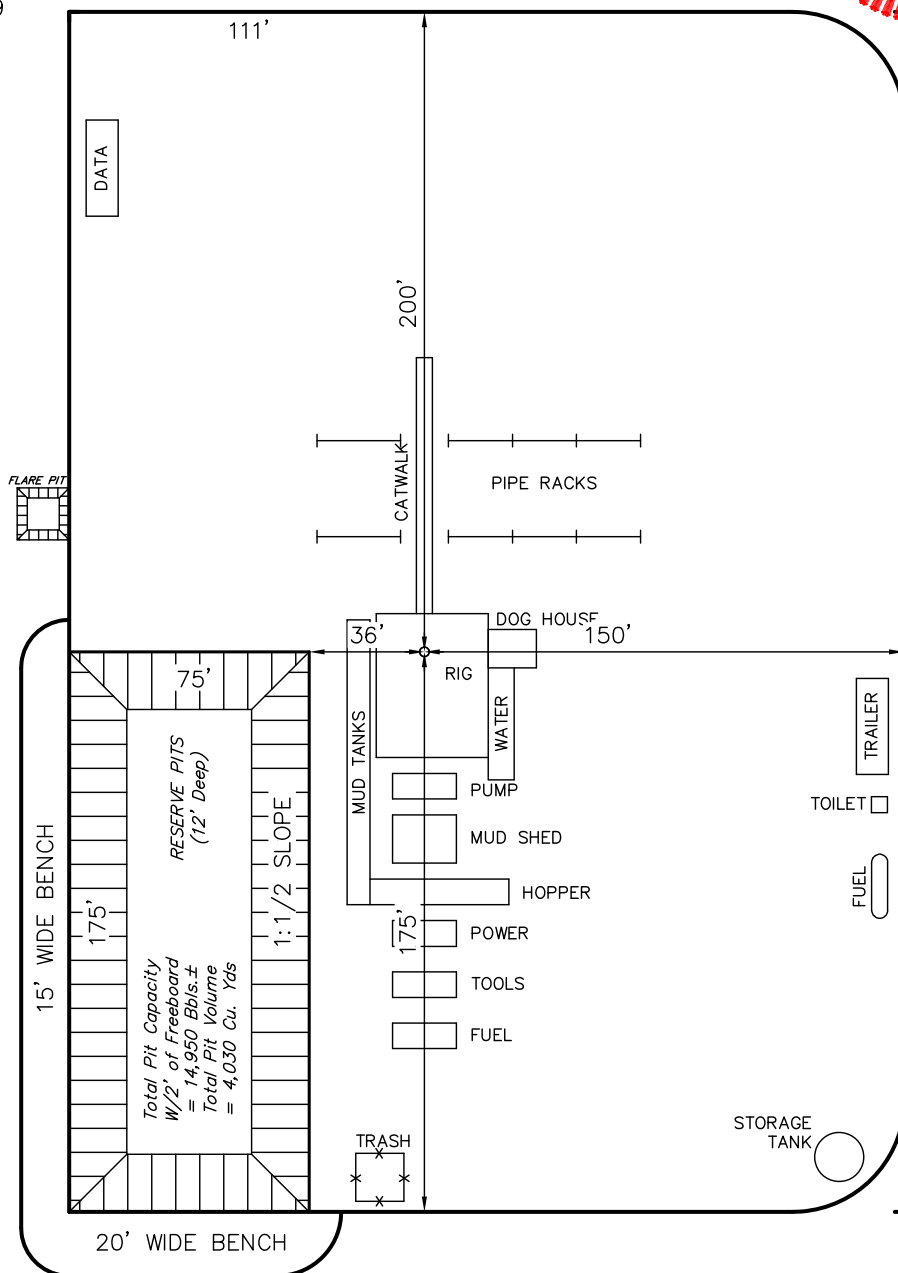


SCALE: 1" = 60'  
DATE: 04-07-09  
DRAWN BY: K.G.



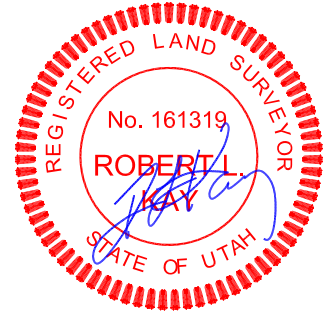
### NOTE:

Flare Pit is to be located a min. of 100' from the Well Head.

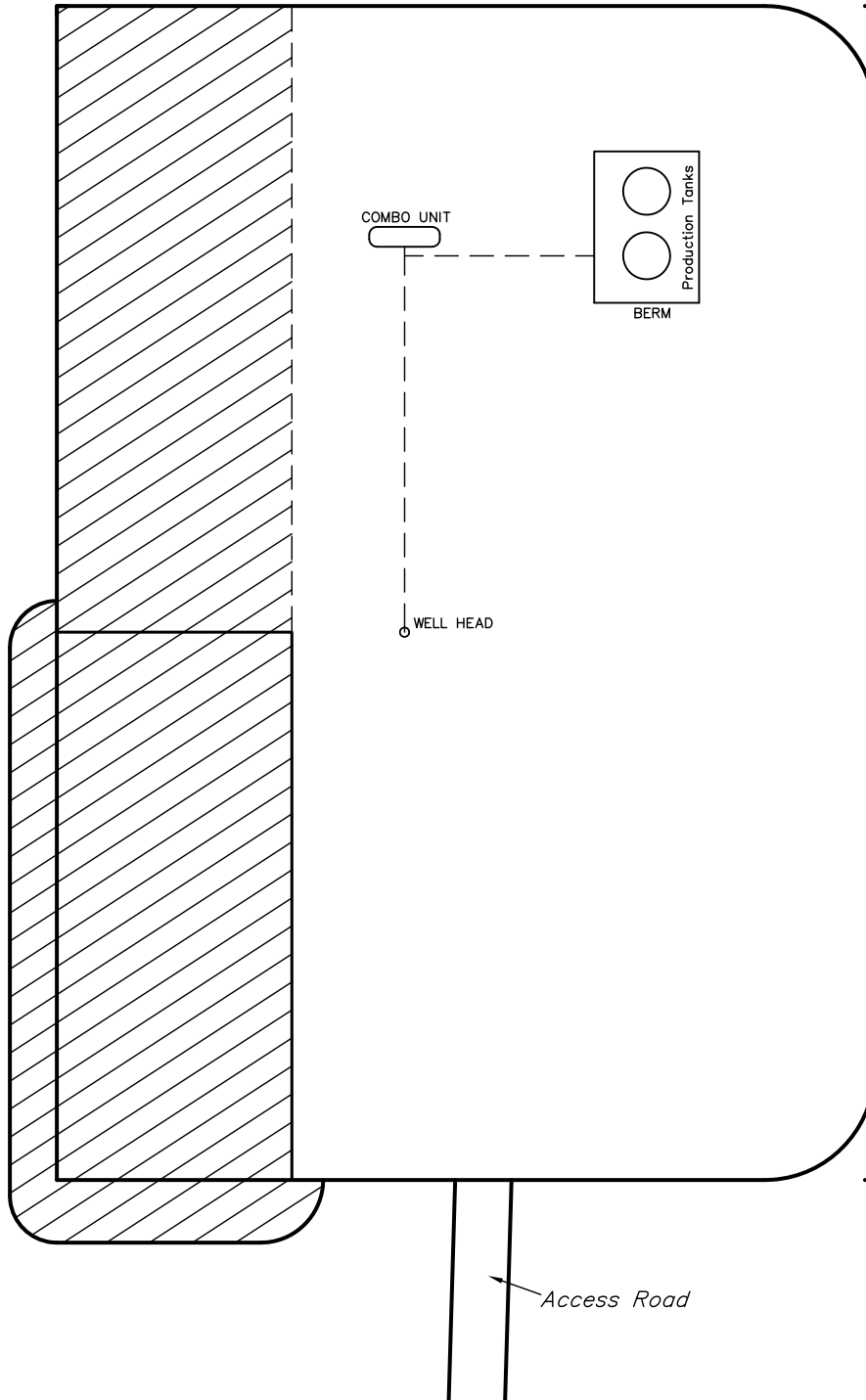


EOG RESOURCES, INC.  
PRODUCTION FACILITY LAYOUT FOR  
NBU #687-30E  
SECTION 30, T10S, R21E, S.L.B.&M.  
1921' FNL 1967' FWL

FIGURE #4



SCALE: 1" = 60'  
DATE: 04-07-09  
DRAWN BY: K.G.

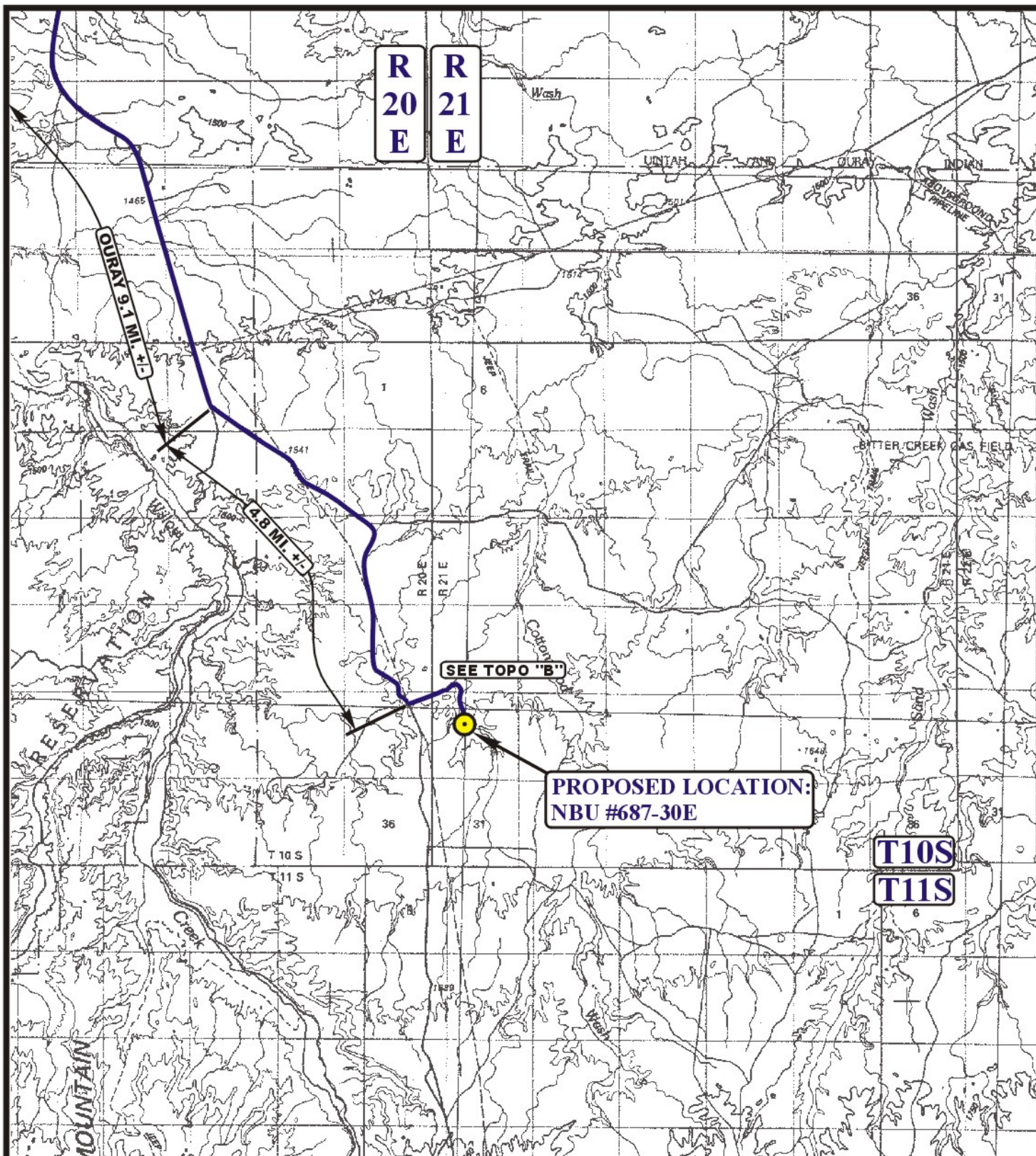


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EOG RESOURCES, INC.  
NBU #687-30E  
SECTION 30, T10S, R21E, S.L.B.&M.

PROCEED IN A WESTERLY DIRECTION FROM VERNAL, UTAH ALONG U.S. HIGHWAY 40 APPROXIMATELY 14.0 MILES TO THE JUNCTION OF STATE HIGHWAY 88; TURN LEFT AND PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 17.0 MILES TO OURAY, UTAH; PROCEED IN A SOUTHERLY DIRECTION APPROXIMATELY 13.9 MILES ON THE SEEP RIDGE ROAD TO THE JUNCTION OF THIS ROAD AND ROAD TO THE NORTHEAST; TURN LEFT AND PROCEED IN A NORTHEASTERLY DIRECTION APPROXIMATELY 0.6 MILES TO THE BEGINNING OF THE PROPOSED ACCESS TO THE SOUTH; FOLLOW ROAD FLAGS IN A SOUTHERLY DIRECTION APPROXIMATELY 0.4 MILES TO THE PROPOSED LOCATION.

TOTAL DISTANCE FROM VERNAL, UTAH TO THE PROPOSED WELL LOCATION IS APPROXIMATELY 45.9 MILES.



**LEGEND:**

● PROPOSED LOCATION

**EOG RESOURCES, INC.**

**NBU #687-30E**  
**SECTION 30, T10S, R21E, S.L.B.&M.**  
**1921' FNL 1967' FWL**



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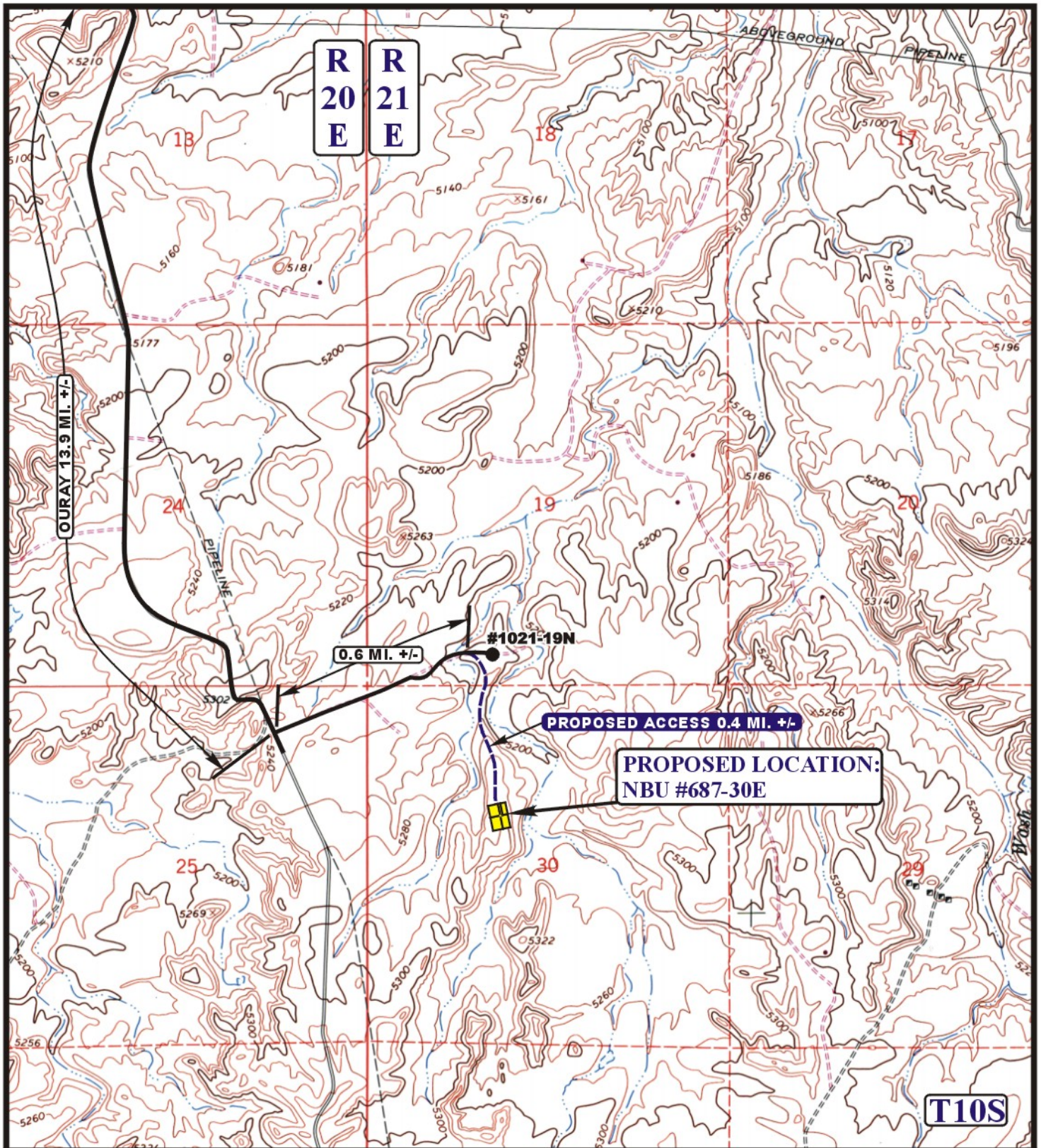
**TOPOGRAPHIC**  
**MAP**

**04 15 09**  
 MONTH DAY YEAR

SCALE: 1:100,000 DRAWN BY: Z.L. REVISED: 00-00-00







**LEGEND:**

— EXISTING ROAD  
 - - - - - PROPOSED ACCESS ROAD

**EOG RESOURCES, INC.**

**NBU #687-30E**  
**SECTION 30, T10S, R21E, S.L.B.&M.**  
**1921' FNL 1967' FWL**



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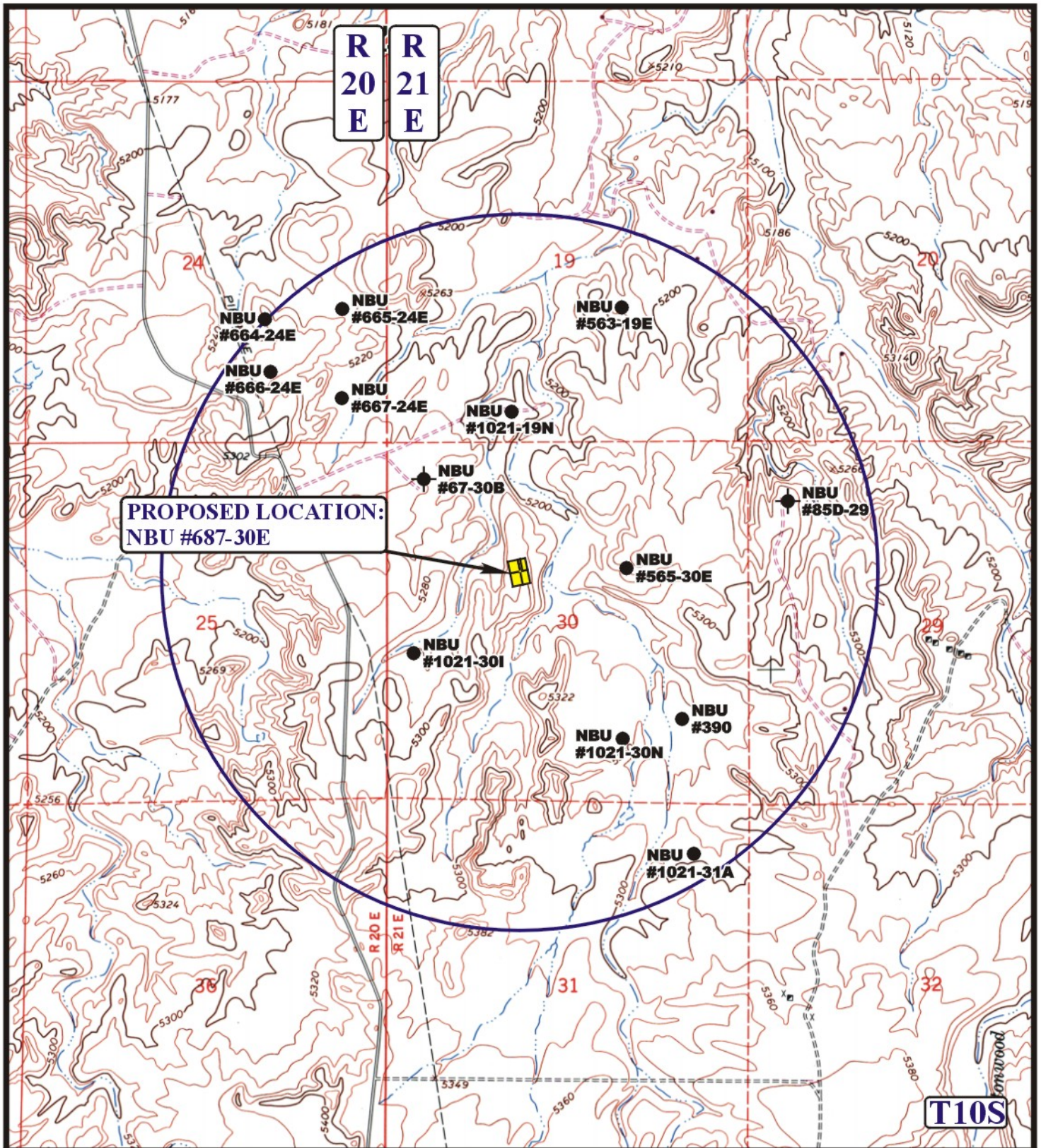
**TOPOGRAPHIC**  
**MAP**

**04 15 09**  
 MONTH DAY YEAR

SCALE: 1" = 2000' DRAWN BY: Z.L. REVISED: 00-00-00

**B**  
**TOPO**





**LEGEND:**

- |                   |                         |
|-------------------|-------------------------|
| ○ DISPOSAL WELLS  | ○ WATER WELLS           |
| ● PRODUCING WELLS | ● ABANDONED WELLS       |
| ● SHUT IN WELLS   | ● TEMPORARILY ABANDONED |

**EOG RESOURCES, INC.**

**NBU #687-30E**  
**SECTION 30, T10S, R21E, S.L.B.&M.**  
**1921' FNL 1967' FWL**



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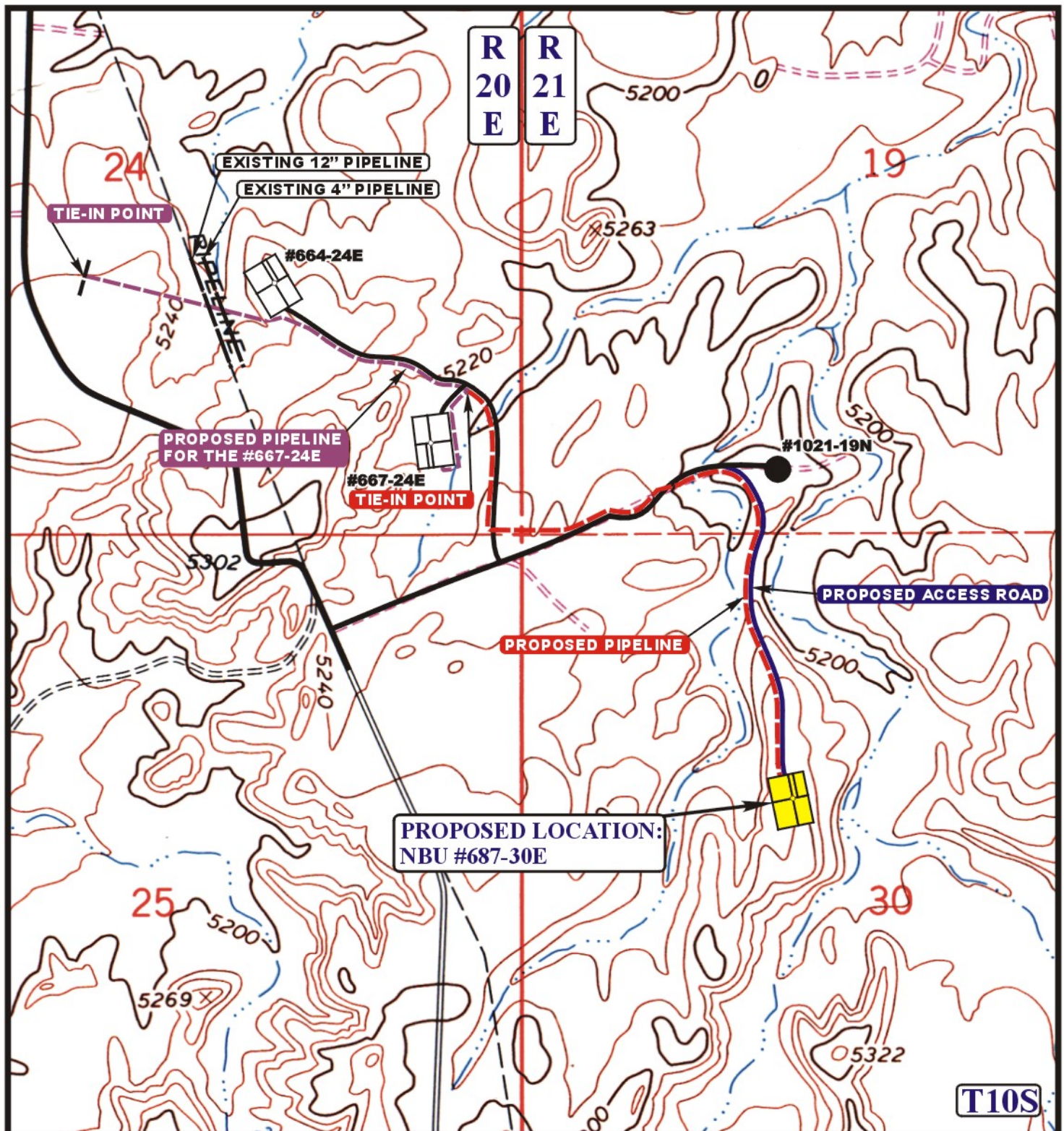
**TOPOGRAPHIC MAP**

SCALE: 1" = 2000' DRAWN BY: Z.L. REVISED: 00-00-00



**04 15 09**  
 MONTH DAY YEAR





APPROXIMATE TOTAL PIPELINE DISTANCE = 5,350' +/-

LEGEND:

- PROPOSED ACCESS ROAD
- EXISTING PIPELINE
- PROPOSED PIPELINE
- PROPOSED PIPELINE (SERVICING OTHER WELLS)



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EOG RESOURCES, INC.

NBU #687-30E  
SECTION 30, T10S, R21E, S.L.B.&M.  
1921' FNL 1967' FWL

TOPOGRAPHIC  
MAP

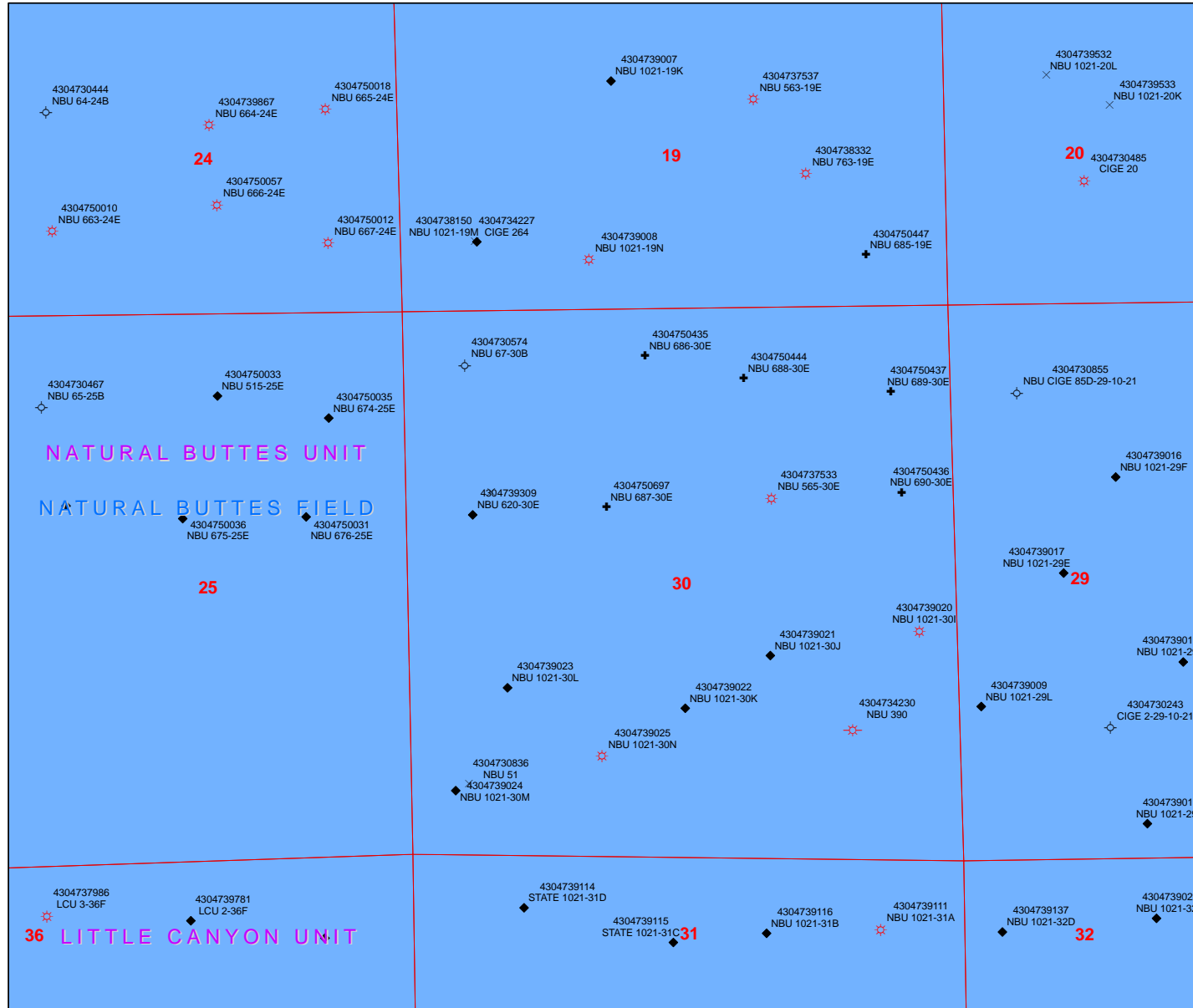
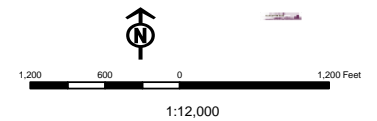
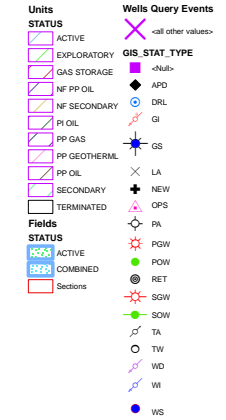
04 15 09  
MONTH DAY YEAR

SCALE: 1" = 1000' DRAWN BY: Z.L. REVISED: 06-09-09

D  
TOPO

**API Number: 4304750697**  
**Well Name: NBU 687-30E**  
**Township 10.0 S Range 21.0 E Section 30**  
**Meridian: SLBM**  
Operator: EOG RESOURCES, INC.

Map Prepared:  
Map Produced by Diana Mason





Well Name	EOG Resources, Inc. NBU 687-30E 43047506970000			
String	Surf	Prod		
Casing Size(in)	9.625	4.500		
Setting Depth (TVD)	2300	7252		
Previous Shoe Setting Depth (TVD)	0	2300		
Max Mud Weight (ppg)	10.5	10.5		
BOPE Proposed (psi)	0	5000		
Casing Internal Yield (psi)	3520	7780		
Operators Max Anticipated Pressure (psi)	3960	10.5		

Calculations	Surf String	9.625	"
Max BHP (psi)	.052*Setting Depth*MW=	1256	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	980	NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	750	NO
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	750	NO Reasonable depth in area
Required Casing/BOPE Test Pressure=		2300	psi
*Max Pressure Allowed @ Previous Casing Shoe=		0	psi *Assumes 1psi/ft frac gradient

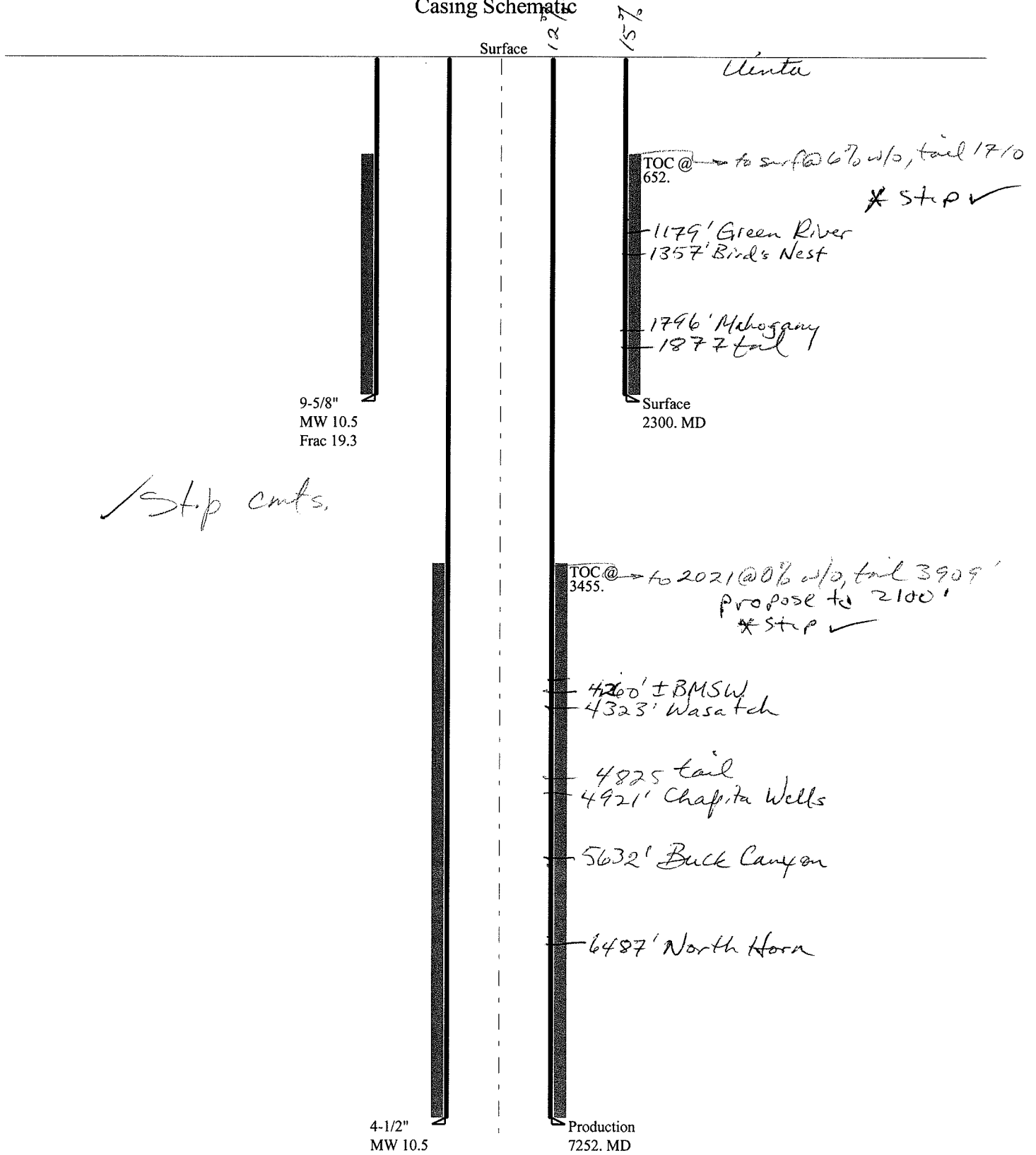
Calculations	Prod String	4.500	"
Max BHP (psi)	.052*Setting Depth*MW=	3960	
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=	3090	YES
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=	2365	YES OK
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=	2871	NO Reasonable
Required Casing/BOPE Test Pressure=		5000	psi
*Max Pressure Allowed @ Previous Casing Shoe=		2300	psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

Calculations	String		"
Max BHP (psi)	.052*Setting Depth*MW=		
			<b>BOPE Adequate For Drilling And Setting Casing at Depth?</b>
MASP (Gas) (psi)	Max BHP-(0.12*Setting Depth)=		NO
MASP (Gas/Mud) (psi)	Max BHP-(0.22*Setting Depth)=		NO
			<b>*Can Full Expected Pressure Be Held At Previous Shoe?</b>
Pressure At Previous Shoe	Max BHP-.22*(Setting Depth - Previous Shoe Depth)=		NO
Required Casing/BOPE Test Pressure=			psi
*Max Pressure Allowed @ Previous Casing Shoe=			psi *Assumes 1psi/ft frac gradient

# 43047506970000 NBU 687-30E

## Casing Schematic



Well name:	<b>43047506970000 NBU 687-30E</b>		
Operator:	<b>EOG Resources, Inc.</b>		
String type:	Surface	Project ID:	43-047-50697
Location:	UINTAH	COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 10.500 ppg  
Design is based on evacuated pipe.

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Burst:**

Design factor 1.00

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 106 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

Cement top: 652 ft

**Burst**

Max anticipated surface pressure: 2,024 psi  
Internal gradient: 0.120 psi/ft  
Calculated BHP 2,300 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.70 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.50 (B)

Tension is based on air weight.  
Neutral point: 1,943 ft

**Non-directional string.**

**Re subsequent strings:**

Next setting depth: 7,252 ft  
Next mud weight: 10.500 ppg  
Next setting BHP: 3,956 psi  
Fracture mud wt: 19.250 ppg  
Fracture depth: 2,300 ft  
Injection pressure: 2,300 psi

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	2300	9.625	36.00	J-55	ST&C	2300	2300	8.796	19991

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	1254	2018	1.609	2300	3520	1.53	82.8	394	4.76 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: September 30, 2009  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 2300 ft, a mud weight of 10.5 ppg. The casing is considered to be evacuated for collapse purposes. Collapse strength is based on the Westcott, Dunlop & Kernler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

*Engineering responsibility for use of this design will be that of the purchaser.*

Well name:	<b>43047506970000 NBU 687-30E</b>		
Operator:	<b>EOG Resources, Inc.</b>		
String type:	Production	Project ID:	43-047-50697
Location:	UINTAH	COUNTY	

**Design parameters:**

**Collapse**

Mud weight: 10.500 ppg  
Internal fluid density: 1.000 ppg

**Minimum design factors:**

**Collapse:**

Design factor 1.125

**Environment:**

H2S considered? No  
Surface temperature: 74 °F  
Bottom hole temperature: 152 °F  
Temperature gradient: 1.40 °F/100ft  
Minimum section length: 100 ft

**Burst:**

Design factor 1.00

Cement top: 3,455 ft

**Burst**

Max anticipated surface pressure: 0 psi  
Internal gradient: 0.220 psi/ft  
Calculated BHP 0 psi

No backup mud specified.

**Tension:**

8 Round STC: 1.80 (J)  
8 Round LTC: 1.80 (J)  
Buttress: 1.60 (J)  
Premium: 1.50 (J)  
Body yield: 1.60 (B)

**Non-directional string.**

Tension is based on air weight.  
Neutral point: 0 ft

Run Seq	Segment Length (ft)	Size (in)	Nominal Weight (lbs/ft)	Grade	End Finish	True Vert Depth (ft)	Measured Depth (ft)	Drift Diameter (in)	Est. Cost (\$)
1	7252	4.5	11.60	N-80	LT&C	5572	7252	3.875	29867

Run Seq	Collapse Load (psi)	Collapse Strength (psi)	Collapse Design Factor	Burst Load (psi)	Burst Strength (psi)	Burst Design Factor	Tension Load (kips)	Tension Strength (kips)	Tension Design Factor
1	2750	6350	2.309	1226	7780	6.35	64.6	223	3.45 J

Prepared by: Helen Sadik-Macdonald  
Div of Oil, Gas & Mining

Phone: 801 538-5357  
FAX: 801-359-3940

Date: September 30, 2009  
Salt Lake City, Utah

**Remarks:**

Collapse is based on a vertical depth of 7252 ft, a mud weight of 10.5 ppg. An internal gradient of .052 psi/ft was used for collapse from TD. Collapse strength is based on the Westcott, Dunlop & Kemler method of biaxial correction for tension.

Burst strength is not adjusted for tension.

**OPERATOR CHANGE WORKSHEET****X Change of Operator (Well Sold)**

Operator Name Change

Designation of Agent/Operator

Merger

**ROUTING**

1. DJJ

2. CDW

The operator of the well(s) listed below has changed, effective:

**1/1/2010****FROM: (Old Operator):**

N9550-EOG Resources  
1060 E Hwy 40  
Vernal, UT 84078  
Phone: 1-(435) 781-9111

**TO: ( New Operator):**

N2995-Kerr-McGee Oil & Gas Onshore., LP  
1368 South 1200 East  
Vernal, UT 84078  
Phone: 1-(435) 781-7024

CA No.				Unit:	NATURAL BUTTES			
WELL NAME(S)	SEC TWN RNG			API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
SEE ATTACHED								

**OPERATOR CHANGES DOCUMENTATION**

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 12/24/2009
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 12/24/2009
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 3/7/2006
- Is the new operator registered in the State of Utah: YES Business Number: 1355743-0181
- (R649-9-2) Waste Management Plan has been received on: IN PLACE
- Inspections of LA PA state/fee well sites complete on: n/a
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA n/a
- Federal and Indian Units:**  
The BLM or BIA has approved the successor of unit operator for wells listed on: not yet
- Federal and Indian Communization Agreements ("CA"):**  
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
- Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: n/a

**DATA ENTRY:**

- Changes entered in the **Oil and Gas Database** on: 1/31/2010
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 1/31/2010
- Bond information entered in RBDMS on: 1/31/2010
- Fee/State wells attached to bond in RBDMS on: 1/31/2010
- Injection Projects to new operator in RBDMS on: n/a

**BOND VERIFICATION:**

- Federal well(s) covered by Bond Number: WYB000291
- Indian well(s) covered by Bond Number: n/a
- (R649-3-1) The **NEW** operator of any state or fee well(s) listed covered by Bond Number 22013542
- The **FORMER** operator has requested a release of liability from their bond on: n/a

**COMMENTS:**

EOG transferred all their leases and permits in NBU to Kerr-McGee effective January 1, 2010

STATE OF UTAH  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: ML-22793
2. NAME OF OPERATOR: EOG Resources, Inc.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME: Natural Buttes
3. ADDRESS OF OPERATOR: 1060 East Highway 40 CITY Vernal STATE UT ZIP 84078		7. UNIT or CA AGREEMENT NAME: Natural Buttes
PHONE NUMBER: (435) 781-9111		8. WELL NAME and NUMBER: Natural Buttes Unit 687-30E
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1921' FNL & 1967' FWL 39.920572 LAT 109.597144 LON		9. API NUMBER: 43-047-50697
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: SENW 30 10S 21E S		10. FIELD AND POOL, OR WILDCAT: Natural Buttes
COUNTY: UINTAH		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input checked="" type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

EOG Resources, Inc. has assigned all of its right, title and interest in the wells described in the attached list ("the Subject Wells") to Kerr-McGee Oil & Gas Onshore LP and will relinquish and transfer operatorship of all of the Subject Wells to Kerr-McGee Oil & Gas Onshore LP on January 1, 2010.

As of January 1, 2010, Kerr-McGee Oil & Gas Onshore LP will be considered to be the operator of each of the Subject Wells and will be responsible under the terms and conditions of the applicable lease for the operations conducted upon the leased lands. Bond coverage is provided under Kerr-McGee Oil & Gas Onshore LP's Nationwide BLM Bond No. WYB-000291.

Kerr-McGee Oil & Gas Onshore LP  
1099 18th Street, Suite 1800  
Denver, CO 80202-1918

By: Michael A. Nixon Date: 12/17/2009

Michael A. Nixon  
Agent and Attorney-in-Fact

NAME (PLEASE PRINT) J. Michael Schween

TITLE Agent and Attorney-in-Fact

SIGNATURE

DATE 12/17/2009

(This space for State use only)

APPROVED 1/31/2010

Earlene Russell

Division of Oil, Gas and Mining

Earlene Russell, Engineering Technician

(5/2000)

(See Instructions on Reverse Side)

RECEIVED

DEC 24 2009

DIV. OF OIL, GAS & MINING

**From:** Jim Davis  
**To:** Bonner, Ed; Hill, Brad; Mason, Diana  
**CC:** Danielle Piernot; Garrison, LaVonne; kathy.schneebeckdulnoan@anadarko.com  
**Date:** 3/24/2010 12:41 PM  
**Subject:** Kerr Mc Gee Approvals

The following APDs have been approved by SITLA including arch and paleo clearance.

4304750909 NBU 922-31E4CS  
4304750910 NBU 922-31K1BS  
4304750911 NBU 922-31K4CS  
4304750912 NBU 922-31L4BS  
4304750565 NBU 695-25E  
4304750811 NBU 699-25E  
4304750697 NBU 687-30E

The following APDs have also been approved by SITLA including arch and paleo clearance, with the following requirement.

In accordance with the recommendations given in the paleo reports, and as a condition of its approval, SITLA is requiring paleo monitoring during the construction of the pads for the following wells.

4304750890 NBU 921-27A4DS  
4304750891 NBU 921-27H1BS  
4304750892 NBU 921-27H3DS  
4304750893 NBU 921-27I1BS  
4304750894 NBU 921-27M4CS  
4304750895 NBU 921-27M1AS  
4304750896 NBU 921-27N3AS  
4304750897 NBU 921-27O3DS  
4304750898 NBU 922-32A2BS  
4304750899 NBU 922-32B2AS  
4304750900 NBU 922-32C1BS  
4304750901 NBU 922-32C1DS  
4304750902 NBU 922-32C2CS  
4304750903 NBU 922-32C3DS  
4304750904 NBU 922-32D4CS  
4304750905 NBU 922-32G4CS  
4304750906 NBU 922-32H3AS  
4304750907 NBU 922-32I1CS  
4304750908 NBU 922-32J1DS  
4304750913 NBU 921-27K1DS  
4304750914 NBU 921-27K3BS  
4304750915 NBU 921-27K4AS  
4304750916 NBU 921-27K4DS  
4304750922 NBU 921-26F1AS  
4304750923 NBU 921-26G1DS  
4304750924 NBU 921-26G2AS  
4304750925 NBU 921-26G4CS  
4304750926 NBU 921-26J2AS  
4304750927 NBU 921-26C3CS  
4304750928 NBU 921-26D3AS  
4304750929 NBU 921-26D3DS  
4304750988 NBU 921-27E3AS  
4304750989 NBU 921-27L1AS  
4304750990 NBU 921-27L2BS  
4304750991 NBU 921-27L3CS  
4304750992 NBU 921-27M2BS  
4304750996 NBU 921-26A3DS

'APIWellNo:43047506970000'

4304750997	NBU 921-26H1AS
4304750998	NBU 921-26H2DS
4304750999	NBU 921-26H4DS

Thanks.  
-Jim



# **ON-SITE PREDRILL EVALUATION**

## **Utah Division of Oil, Gas and Mining**

<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.				
<b>Well Name</b>	NBU 687-30E				
<b>API Number</b>	43047506970000	<b>APD No</b>	1961	<b>Field/Unit</b>	NATURAL BUTTES
<b>Location: 1/4,1/4</b>	SENW	<b>Sec</b>	30	<b>Tw</b>	10.0S
		<b>Rng</b>	21.0E	1921	FNL 1967 FWL
<b>GPS Coord (UTM)</b>	619951	4419680	<b>Surface Owner</b>		

### **Participants**

Floyd Bartlett (DOGM), Jim Davis (SITLA), Kaylene Gardner, Robert Wilkins and David Braithwaite (EOG).

### **Regional/Local Setting & Topography**

The general area is approximately 46 miles southwest of Vernal, Utah and 14 miles south of Ouray, Utah in upper Cottonwood Wash in the west end of the Natural Buttes oil field unit. The area is characterized by rolling hills and benches, which are frequently intersected by somewhat gentle to deep draws running northerly about 12 miles to the White River. White River contains a perennial stream. Cottonwood Wash and other tributary drainages are all ephemeral only flowing during spring snowmelt or following intense summer rainstorms. The draws are occasionally rimmed with steep side hills, which have exposed sand stone bedrock cliffs along the rims. No other seeps, springs or streams are known to exist in the area. An occasional pond collecting runoff for livestock and antelope occurs.

Approximately 0.4 miles of new road across gentle terrain will be required to reach the proposed NBU 687-30E gas well. The location is laid out longitudinally in a northerly direction along the top of a narrow ridge. The ridge breaks off sharply on both the east and west sides. A swale intersects the pad at corner 8. This corner will be rounded to avoid the swale or a diversion ditch constructed as shown on the Location Layout (Figure 1). An additional swale that begins within the location will be filled during construction. At EOG's preference, the well will be drilled using a closed loop mud circulation system. A small bermed containment will be constructed in the area shown for the reserve pit to hold the cuttings until after the drilling is completed. The bottom of the containment will be lined with bentonite. Jim Davis of SITLA gave approval to spread the dried cuttings on the location and approach road. The selected location appears to be a suitable site for constructing a pad, drilling and operating a well.

Both the surface and minerals are owned by SITLA.

### **Surface Use Plan**

#### **Current Surface Use**

Grazing  
Recreational  
Wildlife Habitat

<b>New Road Miles</b>	<b>Well Pad</b>	<b>Src Const Material</b>	<b>Surface Formation</b>
0.4	<b>Width</b> 261 <b>Length</b> 375	Onsite	UNTA

**Ancillary Facilities** N

### **Waste Management Plan Adequate?**

### **Environmental Parameters**

**Affected Floodplains and/or Wetlands** N

**Flora / Fauna**

Vegetation is fair. Plants include broom snakeweed, shadscale, curly mesquite, halogeton, mat saltbrush, horse brush, prickly pear, Russian thistle, spring annuals, cheat grass and Gardner saltbrush.

Antelope, coyotes, rabbits, cattle, horses and miscellaneous small mammals and birds.

#### **Soil Type and Characteristics**

Moderately deep gravely sandy loam.

**Erosion Issues** N

**Sedimentation Issues** N

**Site Stability Issues** N

**Drainage Diversion Required?** Y

A swale intersects the pad at corner 8. This corner will be rounded to avoid the swale or a diversion ditch constructed as shown on the Location Layout (Figure 1).

**Berm Required?** N

**Erosion Sedimentation Control Required?** N

**Paleo Survey Run?** Y **Paleo Potential Observed?** N **Cultural Survey Run?** Y **Cultural Resources?**

#### **Reserve Pit**

##### **Site-Specific Factors**

##### **Site Ranking**

<b>Distance to Groundwater (feet)</b>	>200	0
<b>Distance to Surface Water (feet)</b>	>1000	0
<b>Dist. Nearest Municipal Well (ft)</b>	>5280	0
<b>Distance to Other Wells (feet)</b>	>1320	0
<b>Native Soil Type</b>	Mod permeability	10
<b>Fluid Type</b>	Fresh Water	5
<b>Drill Cuttings</b>	Normal Rock	0
<b>Annual Precipitation (inches)</b>		0
<b>Affected Populations</b>		
<b>Presence Nearby Utility Conduits</b>	Not Present	0
<b>Final Score</b>		15

2 Sensitivity Level

#### **Characteristics / Requirements**

At EOG's preference, the well will be drilled using a closed loop mud circulation system. A small bermed containment will be constructed in the area shown for the reserve pit to hold the cuttings until after the drilling is completed. The bottom of the containment will be lined with bentonite.

**Closed Loop Mud Required?** Y **Liner Required?** **Liner Thickness** **Pit Underlayment Required?**

#### **Other Observations / Comments**

Floyd Bartlett  
Evaluator

9/14/2009  
Date / Time

# Application for Permit to Drill

## Statement of Basis

3/25/2010

Utah Division of Oil, Gas and Mining

Page 1

<b>APD No</b>	<b>API WellNo</b>	<b>Status</b>	<b>Well Type</b>	<b>Surf Owner</b>	<b>CBM</b>
1961	43047506970000	SITLA	GW	S	No
<b>Operator</b>	KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>Surface Owner-APD</b>		
<b>Well Name</b>	NBU 687-30E		<b>Unit</b>	NATURAL BUTTES	
<b>Field</b>	NATURAL BUTTES		<b>Type of Work</b>	DRILL	
<b>Location</b>	SENW 30 10S 21E S 1921 FNL 1967 FWL GPS Coord (UTM) 619951E 4419683N				

### Geologic Statement of Basis

EOG proposes to set 2,300' of surface casing at this location. The depth to the base of the moderately saline water at this location is estimated to be at a depth of 4,260'. A search of Division of Water Rights records shows no water wells within a 10,000 foot radius of the center of Section 30. The surface formation at this site is the Uinta Formation. The Uinta Formation is made up of interbedded shales and sandstones. The sandstones are mostly lenticular and discontinuous and should not be a significant source of useable ground water. Production casing cement should be brought up above the base of the moderately saline ground water to isolate it from fresher waters uphole.

Brad Hill  
APD Evaluator

9/28/2009  
Date / Time

### Surface Statement of Basis

The general area is approximately 46 miles southwest of Vernal, Utah and 14 miles south of Ouray, Utah in upper Cottonwood Wash in the west end of the Natural Buttes oil field unit. The area is characterized by rolling hills and benches, which are frequently intersected by somewhat gentle to deep draws running northerly about 12 miles to the White River. White River contains a perennial stream. Cottonwood Wash and other tributary drainages are all ephemeral only flowing during spring snowmelt or following intense summer rainstorms. The draws are occasionally rimmed with steep side hills, which have exposed sand stone bedrock cliffs along the rims. No other seeps, springs or streams are known to exist in the area. An occasional pond collecting runoff for livestock and antelope occurs.

Approximately 0.4 miles of new road across gentle terrain will be required to reach the proposed NBU 687-30E gas well. The location is laid out longitudinally in a northerly direction along the top of a narrow ridge. The ridge breaks off sharply on both the east and west sides. A swale intersects the pad at corner 8. This corner will be rounded to avoid the swale or a diversion ditch constructed as shown on the Location Layout (Figure 1). An additional swale that begins within the location will be filled during construction. At EOG's preference, the well will be drilled using a closed loop mud circulation system. A small bermed containment will be constructed in the area shown for the reserve pit to hold the cuttings until after the drilling is completed. The bottom of the containment will be lined with bentonite. Jim Davis of SITLA gave approval to spread the dried cuttings on the location and approach road. The selected location appears to be a suitable site for constructing a pad, drilling and operating a well.

Both the surface and minerals are owned by SITLA. Jim Davis of SITLA attended the pre-site. He had no concerns except as covered above. SITLA is to be contacted for site reclamation and re-vegetation standards.

Utah Division of Wildlife Resources was invited to the pre-site evaluation but did not attend.

Floyd Bartlett  
Onsite Evaluator

9/14/2009  
Date / Time

---

# **Application for Permit to Drill Statement of Basis**

3/25/2010

**Utah Division of Oil, Gas and Mining**

---

Page 2

## **Conditions of Approval / Application for Permit to Drill**

<b>Category</b>	<b>Condition</b>
Pits	A closed loop mud circulation system is required for this location.
Surface	Drainages adjacent to the proposed pad shall be diverted around the location.

# WORKSHEET

## APPLICATION FOR PERMIT TO DRILL

**APD RECEIVED:** 8/26/2009

**API NO. ASSIGNED:** 43047506970000

**WELL NAME:** NBU 687-30E

**OPERATOR:** KERR-MCGEE OIL & GAS ONSHORE, L.P. (N2995)

**PHONE NUMBER:** 435 781-9111

**CONTACT:** Kaylene Gardner

**PROPOSED LOCATION:** SENW 30 100S 210E

**Permit Tech Review:** ☒

**SURFACE:** 1921 FNL 1967 FWL

**Engineering Review:** ☒

**BOTTOM:** 1921 FNL 1967 FWL

**Geology Review:** ☒

**COUNTY:** UINTAH

**LATITUDE:** 39.92065

**LONGITUDE:** -109.59645

**UTM SURF EASTINGS:** 619951.00

**NORTHINGS:** 4419683.00

**FIELD NAME:** NATURAL BUTTES

**LEASE TYPE:** 3 - State

**LEASE NUMBER:** ML22793

**PROPOSED PRODUCING FORMATION(S):** WASATCH-NORTH HORN

**SURFACE OWNER:** 3 - State

**COALBED METHANE:** NO

### RECEIVED AND/OR REVIEWED:

☒ **PLAT**

☒ **Bond:** STATE/FEE - 6196017

☐ **Potash**

☒ **Oil Shale 190-5**

☐ **Oil Shale 190-3**

☐ **Oil Shale 190-13**

☒ **Water Permit:** 49-225

☐ **RDCC Review:**

☐ **Fee Surface Agreement**

☐ **Intent to Commingle**

**Commingle Approved**

### LOCATION AND SITING:

☐ **R649-2-3.**

**Unit:** NATURAL BUTTES

☐ **R649-3-2. General**

☐ **R649-3-3. Exception**

☒ **Drilling Unit**

**Board Cause No:** Cause 173-14

**Effective Date:** 12/2/1999

**Siting:** 460' fr u bdry & uncomm. tract

☐ **R649-3-11. Directional Drill**

**Comments:** Presite Completed  
APD IS IN UPOD:OP FR N9550:

**Stipulations:** 5 - Statement of Basis - Bhill  
12 - Cement Volume (3) - ddoucet  
17 - Oil Shale 190-5(b) - dmason  
25 - Surface Casing - hmacdonald



GARY R. HERBERT  
*Governor*

GREGORY S. BELL  
*Lieutenant Governor*

## State of Utah

DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

### Permit To Drill

\*\*\*\*\*

**Well Name:** NBU 687-30E  
**API Well Number:** 43047506970000  
**Lease Number:** ML22793  
**Surface Owner:** STATE  
**Approval Date:** 3/25/2010

**Issued to:**

KERR-MCGEE OIL & GAS ONSHORE, L.P., P.O. Box 173779, Denver, CO 80217

**Authority:**

Pursuant to Utah Code Ann. §40-6-1 et seq., and Utah Administrative Code R649-3-1 et seq., the Utah Division of Oil, Gas and Mining issues conditions of approval, and permit to drill the listed well. This permit is issued in accordance with the requirements of Cause 173-14. The expected producing formation or pool is the WASATCH-NORTH HORN Formation(s), completion into any other zones will require filing a Sundry Notice (Form 9). Completion and commingling of more than one pool will require approval in accordance with R649-3-22.

**Duration:**

This approval shall expire one year from the above date unless substantial and continuous operation is underway, or a request for extension is made prior to the expiration date

**General:**

Compliance with the requirements of Utah Admin. R. 649-1 et seq., the Oil and Gas Conservation General Rules, and the applicable terms and provisions of the approved Application for permit to drill.

**Conditions of Approval:**

In accordance with the Order in Cause No. 190-5(b) dated October 28, 1982, the operator shall comply with the requirements of Rules R649-3-31 and R649-3-27 pertaining to Designated Oil Shale Areas. Additionally, the operators shall ensure that the surface and or production casing is properly cemented over the entire oil shale section as defined by Rule R649-3-31. The Operator shall report the actual depth the oil shale is encountered to the division.

Cement volume for the 4 1/2" production string shall be determined from actual hole diameter in order to place cement from the pipe setting depth back to 2100' MD as indicated in the submitted drilling plan.

Surface casing shall be cemented to the surface.

Compliance with the Conditions of Approval/Application for Permit to Drill outlined in the Statement of Basis (copy attached).

**Additional Approvals:**

The operator is required to obtain approval from the Division of Oil, Gas and mining before performing any of the following actions during the drilling of this well:

- Any changes to the approved drilling plan – contact Dustin Doucet
- Significant plug back of the well – contact Dustin Doucet
- Plug and abandonment of the well – contact Dustin Doucet

**Notification Requirements:**

The operator is required to notify the Division of Oil, Gas and Mining of the following actions during drilling of this well:

- Within 24 hours following the spudding of the well – contact Carol Daniels  
OR  
submit an electronic sundry notice (pre-registration required) via the Utah Oil & Gas website at <https://oilgas.ogm.utah.gov>
- 24 hours prior to testing blowout prevention equipment - contact Dan Jarvis
- 24 hours prior to cementing or testing casing – contact Dan Jarvis
- Within 24 hours of making any emergency changes to the approved drilling program – contact Dustin Doucet
- 24 hours prior to commencing operations to plug and abandon the well – contact Dan Jarvis

**Contact Information:**

The following are Division of Oil, Gas and Mining contacts and their telephone numbers (please leave a voicemail message if the person is not available to take the call):

- Carol Daniels 801-538-5284 - office
- Dustin Doucet 801-538-5281 - office  
801-733-0983 - after office hours
- Dan Jarvis 801-538-5338 - office  
801-231-8956 - after office hours

**Reporting Requirements:**

All reports, forms and submittals as required by the Utah Oil and Gas Conservation General Rules will be promptly filed with the Division of Oil, Gas and Mining, including but not limited to:

- Entity Action Form (Form 6) – due within 5 days of spudding the well
- Monthly Status Report (Form 9) – due by 5th day of the following calendar month
- Requests to Change Plans (Form 9) – due prior to implementation
- Written Notice of Emergency Changes (Form 9) – due within 5 days
- Notice of Operations Suspension or Resumption (Form 9) – due prior to implementation
- Report of Water Encountered (Form 7) – due within 30 days after completion
- Well Completion Report (Form 8) – due within 30 days after completion or plugging

**Approved By:**



Gil Hunt  
Associate Director, Oil & Gas

<b>STATE OF UTAH</b> DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		<b>FORM 9</b>			
<b>SUNDRY NOTICES AND REPORTS ON WELLS</b>  Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		<b>5. LEASE DESIGNATION AND SERIAL NUMBER:</b> ML22793			
<b>1. TYPE OF WELL</b> Gas Well		<b>6. IF INDIAN, ALLOTTEE OR TRIBE NAME:</b>			
<b>2. NAME OF OPERATOR:</b> KERR-MCGEE OIL & GAS ONSHORE, L.P.		<b>7. UNIT or CA AGREEMENT NAME:</b> NATURAL BUTTES			
<b>3. ADDRESS OF OPERATOR:</b> P.O. Box 173779 1099 18th Street, Suite 600, Denver, CO, 80217 3779		<b>8. WELL NAME and NUMBER:</b> NBU 687-30E			
<b>4. LOCATION OF WELL FOOTAGES AT SURFACE:</b> 1921 FNL 1967 FWL <b>QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:</b> Qtr/Qtr: SENW Section: 30 Township: 10.0S Range: 21.0E Meridian: S		<b>9. API NUMBER:</b> 43047506970000			
<b>PHONE NUMBER:</b> 720 929-6515 Ext		<b>9. FIELD and POOL or WILDCAT:</b> NATURAL BUTTES			
<b>COUNTY:</b> UINTAH		<b>STATE:</b> UTAH			
<b>11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA</b>					
<b>TYPE OF SUBMISSION</b>	<b>TYPE OF ACTION</b>				
<input checked="" type="checkbox"/> <b>NOTICE OF INTENT</b> Approximate date work will start: 3/25/2011  <input type="checkbox"/> <b>SUBSEQUENT REPORT</b> Date of Work Completion:  <input type="checkbox"/> <b>SPUD REPORT</b> Date of Spud:  <input type="checkbox"/> <b>DRILLING REPORT</b> Report Date:	<table style="width: 100%; border: none;"> <tr> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ACIDIZE  <input type="checkbox"/> CHANGE TO PREVIOUS PLANS  <input type="checkbox"/> CHANGE WELL STATUS  <input type="checkbox"/> DEEPEN  <input type="checkbox"/> OPERATOR CHANGE  <input type="checkbox"/> PRODUCTION START OR RESUME  <input type="checkbox"/> REPERFORATE CURRENT FORMATION  <input type="checkbox"/> TUBING REPAIR  <input type="checkbox"/> WATER SHUTOFF  <input type="checkbox"/> WILDCAT WELL DETERMINATION         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> ALTER CASING  <input type="checkbox"/> CHANGE TUBING  <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS  <input type="checkbox"/> FRACTURE TREAT  <input type="checkbox"/> PLUG AND ABANDON  <input type="checkbox"/> RECLAMATION OF WELL SITE  <input type="checkbox"/> SIDETRACK TO REPAIR WELL  <input type="checkbox"/> VENT OR FLARE  <input type="checkbox"/> SI TA STATUS EXTENSION  <input type="checkbox"/> OTHER         </td> <td style="width: 33%; vertical-align: top;"> <input type="checkbox"/> CASING REPAIR  <input type="checkbox"/> CHANGE WELL NAME  <input type="checkbox"/> CONVERT WELL TYPE  <input type="checkbox"/> NEW CONSTRUCTION  <input type="checkbox"/> PLUG BACK  <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION  <input type="checkbox"/> TEMPORARY ABANDON  <input type="checkbox"/> WATER DISPOSAL  <input checked="" type="checkbox"/> <b>APD EXTENSION</b>          OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px; vertical-align: middle;"></span> </td> </tr> </table>		<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input checked="" type="checkbox"/> <b>APD EXTENSION</b> OTHER: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px; vertical-align: middle;"></span>
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<b>12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.</b>  Kerr-McGee Oil & Gas Onshore, L.P. (Kerr-McGee) respectfully requests an extension to this APD for the maximum time allowed. Please contact the undersigned with any questions and/or comments. Thank you.					
<b>Approved by the Utah Division of Oil, Gas and Mining</b>  <b>Date:</b> 03/23/2011 <b>By:</b>					
<b>NAME (PLEASE PRINT)</b> Danielle Piernot		<b>PHONE NUMBER</b> 720 929-6156			
<b>SIGNATURE</b> N/A		<b>TITLE</b> Regulatory Analyst			
<b>DATE</b> 3/21/2011					





## The Utah Division of Oil, Gas, and Mining

- State of Utah  
- Department of Natural Resources

Electronic Permitting System - Sundry Notices

### Request for Permit Extension Validation Well Number 43047506970000

**API:** 43047506970000

**Well Name:** NBU 687-30E

**Location:** 1921 FNL 1967 FWL QTR SENW SEC 30 TWNP 100S RNG 210E MER S

**Company Permit Issued to:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**Date Original Permit Issued:** 3/25/2010

The undersigned as owner with legal rights to drill on the property as permitted above, hereby verifies that the information as submitted in the previously approved application to drill, remains valid and does not require revision. Following is a checklist of some items related to the application, which should be verified.

- If located on private land, has the ownership changed, if so, has the surface agreement been updated? ☐ Yes ☒ No
- Have any wells been drilled in the vicinity of the proposed well which would affect the spacing or siting requirements for this location? ☐ Yes ☒ No
- Has there been any unit or other agreements put in place that could affect the permitting or operation of this proposed well? ☐ Yes ☒ No
- Have there been any changes to the access route including ownership, or rightof- way, which could affect the proposed location? ☐ Yes ☒ No
- Has the approved source of water for drilling changed? ☐ Yes ☒ No
- Have there been any physical changes to the surface location or access route which will require a change in plans from what was discussed at the onsite evaluation? ☐ Yes ☒ No
- Is bonding still in place, which covers this proposed well? ☒ Yes ☐ No

**Signature:** Danielle Piernot

**Date:** 3/21/2011

**Title:** Regulatory Analyst **Representing:** KERR-MCGEE OIL & GAS ONSHORE, L.P.

**RECEIVED** Mar. 21, 2011



# State of Utah

## DEPARTMENT OF NATURAL RESOURCES

MICHAEL R. STYLER  
*Executive Director*

### Division of Oil, Gas and Mining

JOHN R. BAZA  
*Division Director*

May 9, 2012

Jenn Hawkins  
Anadarko Petroleum Corporation  
1099 18th Street, Suite 1800  
Denver, CO 80202

Re: APDs Rescinded for Anadarko Petroleum Corporation  
Uintah County

Dear Ms. Hawkins:

Enclosed find the list of APDs that you requested to be rescinded. No drilling activity at these locations has been reported to the division. Therefore, approval to drill these wells is hereby rescinded, effective May 2, 2012.

A new APD must be filed with this office for approval prior to the commencement of any future work on the subject location.

If any previously unreported operations have been performed on this well location, it is imperative that you notify the Division immediately.

Sincerely,

Diana Mason  
Environmental Scientist

cc: Well File  
Bureau of Land Management, Vernal  
SITLA, Ed Bonner

4304750055	NBU 753-32E	4304740374	NBU 705-26E
4304750683	NBU 634-12EX	4304750123	NBU 920-12N
4304740346	NBU 921-15N1S	4304750143	NBU 920-13J
4304740347	NBU 921-14M3S	4304750751	NBU 920-21G
4304740348	NBU 921-22A1S	4304750756	NBU 1022-35I1CS
4304750089	NBU 921-15O3T	4304750757	NBU 1022-35I4BS
4304740441	NBU 1022-25G2S	4304750758	NBU 1022-35J1CS
4304740442	NBU 1022-25G4S	4304750759	NBU 1022-35J4CS
4304740443	NBU 1022-25G3S	4304740380	NBU 920-13D
4304750852	FEDERAL 920-23O	4304750155	FEDERAL 920-24O
4304751026	NBU 921-12K	4304750769	NBU 1022-35K4CS
4304751027	NBU 921-12L	4304750770	NBU 1022-35N1CS
4304751028	NBU 921-12M	4304750771	NBU 1022-35O1BS
4304751039	NBU 920-21O	4304750772	NBU 1022-35O1CS
4304750697	NBU 687-30E	4304750791	NBU 921-10O
4304750811	NBU 699-25E	4304750792	NBU 921-10M
4304740153	NBU 1022-05JT	4304740439	NBU 1022-24P2S
4304740135	NBU 921-15MT	4304740440	NBU 1022-24P4S
4304750468	NBU 738-30E		
4304739369	NBU 922-18O		
4304739372	NBU 922-20E		
4304740184	NBU 921-30FT		
4304740217	NBU 759-29E		
4304740218	NBU 737-30E		
4304750461	NBU 1022-24O2S		
4304740267	NBU 704-26E		
4304740240	NBU 702-26E		
4304740241	NBU 703-26E		
4304750578	NBU 920-14B		
4304750579	NBU 920-14A		
4304740268	NBU 701-26E		
4304750627	NBU 920-21P		
4304750628	NBU 920-21N		
4304750682	NBU 921-12J		
4304750695	NBU 921-12N		
4304750111	NBU 921-11GT		
4304750112	NBU 921-11HT		
4304750118	NBU 740-30E		